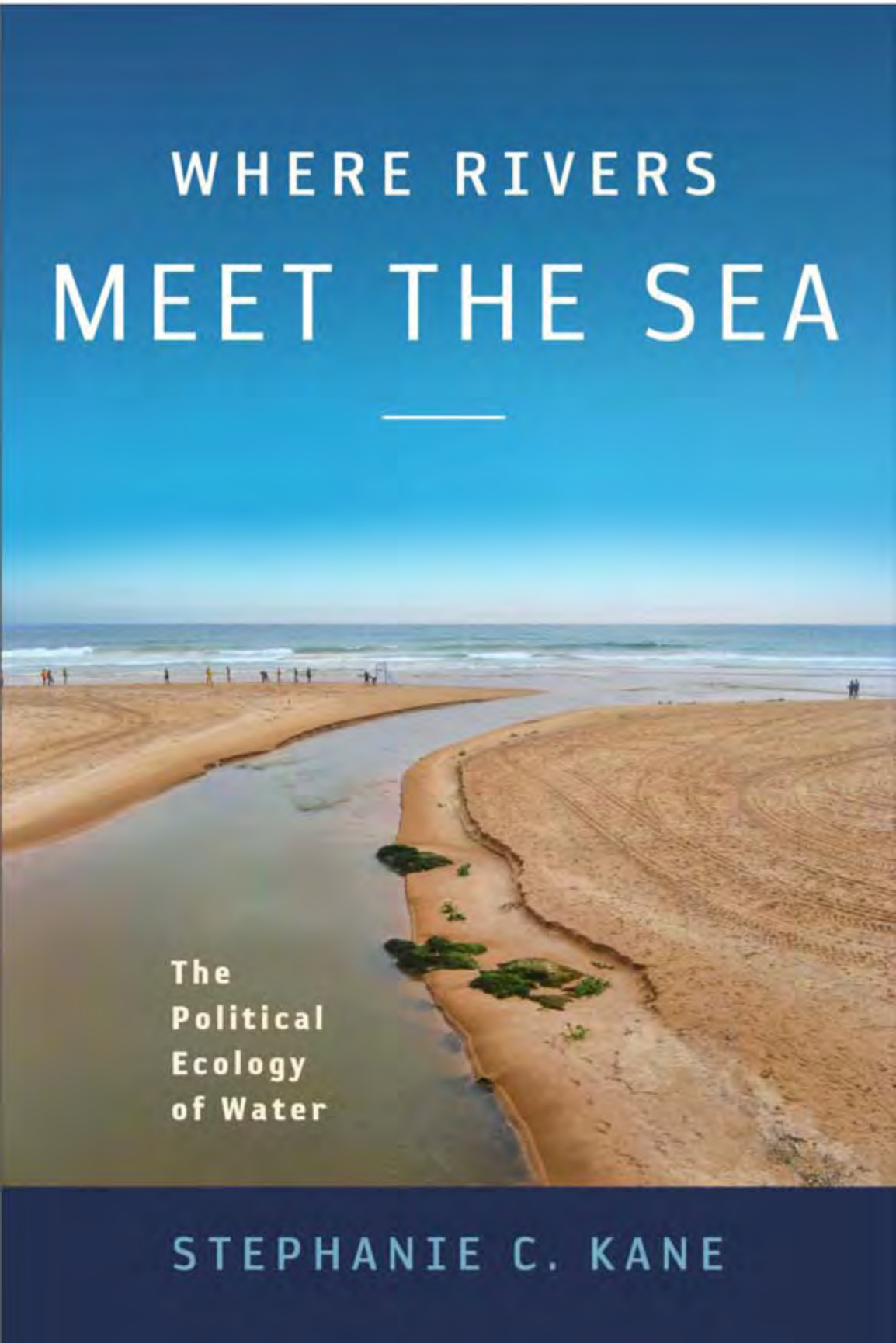


WHERE RIVERS MEET THE SEA

An aerial photograph showing a wide, sandy beach where a river flows into the sea. The river's path is visible in the sand, creating a meandering shape. Several small, dark green patches of vegetation are scattered along the river's edge. In the distance, a line of people is visible on the beach near the water's edge. The sky is a clear, vibrant blue, and the sea has a light blue-green hue with gentle waves.

The
Political
Ecology
of Water

STEPHANIE C. KANE

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Where Rivers Meet the Sea

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The Political Ecology of Water

Stephanie C. Kane



TEMPLE UNIVERSITY PRESS
PHILADELPHIA

Stephanie C. Kane is Associate Professor of Criminal Justice at Indiana University with affiliations in anthropology, folklore, and gender studies. She is author of *The Phantom Gringo Boat: Shamanic Discourse and Development in Panama* and *AIDS Alibis: Sex, Drugs, and Crime in the Americas* (Temple). She is coeditor of *Crime's Power: Anthropologists and the Ethnography of Crime*.

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To my father, with love

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Ambientais (CRA); Centro de Documentação e Estatística Policial (CEDEP); Cetrel; Prefeitura Municipal de Santos; 12 Delegacia Circunscricional Polícia Itapoa; Club Atlético Deportivo—El Brete; Companhia Docas do Estado da Bahia (CODEBA); Companhia Docas do Estado de São Paulo (CODESP); Colegio Público de Abogados de Capital Federal (CPACF); Comitê de Basias (Santos); Desenvolvimento Rodoviário S.A. (DERSA) de São Sebastião; Entidad Binacional Yacyretá (EBY); Empresa Metropolitana de Águas y Energía (EMAE, Usina Hydroeléctrica Henry Borden); Empresa Baiana de Água y Saneamento (EMBASA); Ente Administrador Puerto Rosario (ENAPRO); Escritório de Revitalização do Comércio de Salvador; Encuentro Espacio Intercuencias Riachuelo-Reconquista—Río de la Plata; Farol Itapuã (organization of bar-restaurant owners and managers); Fundación Metropolitana; Grupo Libra; Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis (IBAMA); Instituto Geografía Militar; Instituto Nacional del Agua (INA); Institute da Pesca; International Errorista and the Etcetera Group; R. M. Baires; Prefectura Naval Argentina; Projeto Sócio Ambiental e Turístico Menino de Abaeté; Cia de Saneamento Basico do Estado de São Paulo (SABESP); Secretaria Saúde Santos; Prefeitura Municipal de Santos (SEMAM); Sofitel; Superintendência do Meio Ambiente (SMA); Superintendência de Recursos Hídricos (SRH); Tecon Salvador; Terminales Río de la Plata (TRP, DP World); Construção Naval, Serviços e Transportes Marítimos (TWB); Universidade Federal da Bahia (UFBA); Universidad de Buenos Aires (UBA); Universidad Nacional de Misiones (UNAM); União dos Pescadores (UNIPESC, Conceiçãozinha); Universidade Santa Cecília (UNISANTA, Santos); and Water Port. And for their kind hospitality in Brazil and Argentina I thank the Siqueira, Lerner, Strier and Demby, Farias, Diaz Ciarlo, and Shrewsbury families.

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Abbreviations

Brazil

Municipal Level

APA	Area de Proteção Ambiental (Area of Environmental Protection)
CENTEL	Central Única de Telecomunicações da Polícia (Central Police Telecommunications Office)
RONDESP	Operação Rondas Especiais do Comando de Policiamento da Capital (Special Police Commando Patrol for the Capital)
SEPLAM	Secretaria Municipal do Planejamento (General Office of Municipal Planning)
SETIN	Secretaria Municipal dos Transportes e Infraestrutura (General Office of Municipal Transport and Infrastructure)
SMA	Superintendência do Meio Ambiente (Bureau of the Environment)

State Level

CODEBA	Companhia das Docas do Estado da Bahia (Docks Company of the State of Bahia)
CRA	Centro Recursos Ambientais (Center for Environmental Resources; part of SEMA)

EMBASA	Empresa Baiana de Água e Saneamento (Bahian Water and Sewage Company; a private-public partnership)
GERCE	Grupo de Repressão a Crimes de Extermínio (Group to Repress Crimes of Extermination; internal police squad in SSP)
MP	Ministério Público (Public Ministry, the independent body of prosecutors with offices at the federal and state levels)
PM/BA	Polícia Militar da Bahia (Military Police of Bahia; in SSP)
SEMA	Secretaria de Meio Ambiente (General Office of Environment)
SEMARH	Secretaria de Meio Ambiente e Recursos Hídricos (General Office of Environment and Water Resources)
SEPLAN	Secretaria do Planejamento (General Planning Office)
SRH	Superintendência de Recursos Hídricos (Bureau of Water Resources; part of SEMA)
SSP	Secretaria da Segurança Pública (General Office of Public Security)

State and Federal Level

UFBA	Universidade Federal da Bahia (Federal University of Bahia)
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Federal Level

AAdeAA	Asociación Argentina de Abogados Ambientalistas (Argentine Association of Environmental Lawyers)
ANA	Agência Nacional de Águas (National Agency of Waters; part of MMA)
CIRM	Comissão Interministerial para os Recursos do Mar (Interministerial Commission for Marine Resources)
CPRM	Companhia de Pesquisa de Recursos Minerais (Company for Research on Mineral Resources, Geologic Services of Brazil)
IBAMA	Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis (Brazilian Institute of Environment and Natural Renewable Resources)
MMA	Ministério do Meio Ambiente (Ministry of Environment)
MP	Ministério Público (Public Ministry, the independent body of prosecutors with offices at the federal and state levels)
SIAGAS	Sistema de Informações de Água Subterrâneas (Information System of Subterranean Water; in CPRM)

Argentina

Municipal Level

CAPM	Corporación Antiguo Puerto Madero (Corporation of the Old Puerto Madero)
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Provincial and Federal Level

AA	Aguas Argentina (Argentine Waters; subsidiary of Suez Lyonnaise)
AySA	Agua y Saneamientos Argentinos (Argentine Water and Sanitation)
CEAMSE	Coordinación Ecológica Área Metropolitana Sociedad del Estado (State Society for the Ecological Coordination of the Metropolitan Area)
CONICET	Consejo Nacional de Investigaciones Científicas y Técnicas (National Council of Scientific and Technical Investigations)
CPACF	Colegio Público de Abogados de Capital Federal (Public College of Lawyers of the Federal Capital)
DPN	Defensor del Pueblo de la Nación (Defender of the People of the Nation)
ENOSHA	Ente Nacional de Obras Hídricas y Saneamiento (National Entity of Public Water and Sanitation Works)
INA	Instituto Nacional del Agua (National Institute of Water)
OSN	Obras Sanitarias de la Nación (National Sanitation Works)
RHN	Recursos Hídricos Nacionales (National Water Resources)
UAC	Unión de Asambleas Ciudadanas (Union of Citizen Assemblies)
UNIREC	Unidad de Coordinación del Proyecto Río Reconquista (Coordination Unit for the Reconquista River Project; in the Ministerio de Economía y Obras y Servicios Públicos, or Ministry of Economics and Public Works and Services)

International Level

EBY	Entidad Binacional Yacyretá (Binational Entity of Yacyretá)
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1

Introduction

On the Way to the Sea, Rivers Find Cities and Encounter the State

In port cities that dot Atlantic coastal maps, freshwater sources have always been central to development. From the beginning of human settlement in Brazil and Argentina, through conquest, colonization, and into our era of telecommunications and container shipping, fresh waters have descended from mountains to join other overland flows and wind down into deep-pooled aquifers. Some waters dry up en route; others flood dangerously over denuded clay hills. Lines of giant turbines inside hydroelectric dams noisily sap the waters' seemingly infinite energy as factories, for myriad reasons, pull them in only to taint and expel them again. Where rivers and streams encounter the outskirts of modern cities, their natural flow is disrupted by three layered, urban grids in various states of construction and disrepair: potable water, sewage, and storm drainage systems. Unless an aqueduct bypasses pollution to bring mountain-fresh streams directly to port cities (as in Salvador da Bahia, Brazil), surface waters from the hinterlands collect animal, human, and industrial waste en route (as in Buenos Aires, Argentina).

The institution of political order that we call the state provides infrastructure, a tangible good, for its citizens.¹ In this sense, coastal infrastructure is the material and symbolic dimension of the state in confrontation with nature. Follow the associations between engineers and militaries, observe charted lines dividing areas of water and sewage service from those excluded and forgotten, and you will trace the power of the state made manifest. Nowadays, as states move toward

laws that promote biodiversity, they designate remnants of coastal forest, wetlands, and the watersheds of rivers and lakes as parks and reserves. Unfortunately, corruption, chaos, and lack of legal implementation and enforcement often undermine the intention of such laws. The real estate developers who make frequent incursions to select sites with the best views and the disinherited who see no alternative to constructing shacks in flood zones beside potable water sources all play a role: All invaders, rich, middling, and poor alike, find insufficient reason to respect zoning prohibitions.² People of all classes, races, and religions break laws designed to protect waters from habitat encroachment. Urban ecology is like a bad dream work in progress, infinite sets of semiconscious negotiations taking twists and turns through distinct locales. Each locale faces a particular set of aquatic conundrums, and each relies on cultural and political forms of engagement that are uniquely shaped by port city history.³ Yet the water flows on in its journey to urban grids, eventually uniting all effluvia in the ocean's embrace.

As inflowing ocean currents collide with toxic river outflows along coastal edges, artisanal fishers and mangrove gleaners cede territory to migrant factory workers and multinationals, each with their own diurnal rhythms and historical depths. While citizens march against brutality and hunger, artists perform politics of the imagination and sunbathers lounge, mesmerized by aquamarine horizons. Cultural collectivities with different modes of being and understanding interact in historical landscapes, which gives character to each city and form to the world. As communication nodes, cities participate beyond their population's material presence, electronically exchanging images and data. As container shipping nodes, cities function as industrial transfer points in intercontinental operations. However, in all the comings and goings, one thing stays true: People poison their water sources and waterscapes even as they take sustenance and pleasure from them and pay handsomely for the right to reside beside them.

The Space between Law and Crime

Destruction is as diverse as culture and as ubiquitous as biology. From micro to macro, from inconsequential convenience to horrendous warring disregard, we assassinate the living waters on which all depend. The human-water relationship reciprocates such that even as we poison the water, the water poisons us. Our aquatic treachery demands the invention and application of law, but it also exceeds law's power. Crime and law are opposing metaphors with a lot of social space between; they are malleable frameworks for judging injurious acts.⁴ Egregious offenses can be monitored and punished perhaps; either would be an excellent start. But only changes in consciousness, unfolding place by place, people by people, will reverse unintentional, negligent, harmful, and ever-morphing dispositions and traditions.

Despite the occasional jabs to our consciousness by foul odors, global change indicators, or mass-mediated disasters, humans tend to pursue bad practices in the name of pragmatism. Those who take action to minimize harm have faith in law's promise but put their bodies on the line (blocking bridges, for example) when faced with its limitations. Their performance tactics can nudge governments toward enactment, implementation, and enforcement of legislation and, at the same time, push industries toward sustainability. Many of those who find themselves living in intolerable ecological conditions, like those living downstream of the polluted Río Reconquista in Buenos Aires, find their plight motivation enough to enter activist arenas. Apparently, few passionately seek justice except when environmental degradation threatens them directly. The heart of this study of aquatic cultures encompasses the story of an extraordinary man, Brazilian activist Antonio Conceição Reis,⁵ whose singular battle to save a lake and a group of youths got him killed. His sacrifice illustrates how water struggles, abounding in idealism and riven by betrayal, operate across micro and macro levels and involve complex mixes of partnerships and rivalries among people who wield unequal power. Through analysis of a series of sacrificial situations, I show that technical solutions for resolving conflicts that inevitably arise in these complex mixes will be transformed into useful collaboration and legal implementation only through engaged aquatic culture work.

All nations suffer problems of water contamination and other forms of watershed destruction. Brazil and Argentina, too, suffer under the weight of contamination and mismanagement. In addition to a bounteous share of the planet's freshwater, they share regional political economic affiliations and a long stretch of magnificent coastline. Both experienced the last round of U.S.-supported military dictatorships, Brazil in 1964–1985 and Argentina in 1976–1983.⁶ The regimes' terms ended with compromises that included potentially contradictory missions: strong protections for aquatic environments in national constitutions and at the same time ample provision for privatizing water services and territories. As I explore in the chapters that follow, compromises that seem ecologically sound in the abstract may prove devastating in practice.

In Salvador and Buenos Aires, hosts of this exploration of the human-water relationship, activists press for justice when legal institutions fail to control environmental crime. They work in the gap between legal codes and ecosystem destruction and provide an ethnographic space to explore two general questions: How, with all our marvelous cultural diversity and technological prowess, have human beings dedicated themselves to so many elaborate endgames that tend toward large-scale planetary crisis? Can the scattered, overpowered, but determined forces fighting for social and environmental justice grow enough, know enough, and be creative enough to turn the tide? To work toward answers to these questions, I document social conflicts and collaborations involving flawed engineering,

encroaching waterfront development, industrial pollution, neighborhood alliance, street theater, and violence as a shocking norm. In these animated struggles, nature is not only an inert background but, like culture, a dynamic force in history (Grosz 2005: 45).

Sharing Sovereignty

We stake our civilizations on the coasts and the mighty rivers.

—BARBARA KINGSOLVER, “Water Is Life”⁷

Brazil and Argentina, two of the world’s largest nations in land mass,⁸ rank among those with the highest quantity and quality of renewable water resources.⁹ Along with Paraguay and Uruguay, they sit atop one of the world’s major groundwater basins, with highly productive aquifers that are also highly vulnerable to pollution from unsewered urban and industrial development (the Guaraní system; United Nations 2003: 79, 81). But it is the great tributaries winding across the surface of the Plate River Basin (Cuenca del Plata) that actively integrate and formally inscribe their national ecosystems, legal systems, and economies with Bolivia, Paraguay, and Uruguay (Bloch 1999: 69; Benjamín, Marques, and Tinker 2005).¹⁰ (See Figure 1.) A vast aquatic network, second only to the Amazon, the Plate River Basin forms the material condition for imagining shared sovereignty, evidenced most dramatically by the many canals and dams restructuring the Paraná-Paraguay Waterway (Bloch 1999: 46–52).

In the Guaraní language, *Paraná* means “Father of Waters”; the Paraguay (“Plumed Birds”) River is its greatest tributary. Together, they form the Paraná-Paraguay Waterway, draining about one-fourth of the surface of the continent¹¹ and linking the Pantanal wetland, one of the planet’s largest reserves of freshwater, to the Atlantic Ocean (Bloch 1999: 70).¹² With the onset of November rains, the slow-flowing, interfluvial space of the Pantanal fills quickly, forming a large, shallow lake.¹³ As the dry season takes hold, waters gradually flow out, shrinking the Pantanal to small marshy patches. And so, like a sponge, the Pantanal fills with rainwater and gradually releases it into the highlands and pampas, then through the Paraná Delta, and finally into the Plate, a sea-sized river crossed by dredged shipping lanes that link the Atlantic deep to docks in Buenos Aires and Montevideo, Uruguay.

Modernizers have turned these natural rivers into techno-socio-natural spaces: To ease passage of vessels, the many canals straighten meandering rivers; to generate electricity for cities, dams harvest their greatest flows. An unintended effect of this canalized territorial order is the increased rate of sediment-carrying surface waters rushing toward the sea.¹⁴

Mid-twentieth-century international agreements imagining shared sovereignty of waterways, such as the 1969 Treaty of the Plate Basin, revise aquatic space as economic space but formally include the “preservation of animal and plant life.” Preservation of animal and plant life is third on



Figure 1. Paraná-Paraguay Waterway in the Plate River Basin with the three project field sites: Santos, Salvador, and Buenos Aires. Cartography based on map of South America in *Collier's World Atlas and Gazetteer* (1946) and Bloch 1999 (48).

a list, following (1) facilitation and material assistance of navigation and (2) rational use of water resources through regulation of multiple water courses and their equitable exploitation. The list of goals goes on to include improving road, river, air, electric, and telecommunication networks; promoting industrial interests and economic development; cooperation in health and education; and producing integrated knowledge of the basin. Use of rivers as potable water sources does not figure as a shared priority at the international level. This treaty is followed by the 1971 Declaration of Asunción and the 1973 River Plate Treaty, both developing river management with the same goals (Bloch 1999: 46–47, 75).

The 1992 Earth Summit in Rio, a key international moment for the environmental movement, recognized the “intrinsic values of ecosystems” and “participatory ecosystem-based management” (Agenda 21, Chap. 18).¹⁵ Since then the United Nations has recognized Brazil and Argentina as countries that made progress implementing Chapter 18; but it is difficult to find evidence of an active and effective use of either the precautionary principle or grassroots participation. The contradiction between the actuality of industrial modernization and the promise of sustainability persists (Goldman 2005). Evidence shows that eco-blind forms of modern megaengineering though sometimes profitable are nonetheless unsustainable (McCully 2001; Pearce 2006).

For signatory nations of Plate River Basin agreements, the sacred liberties of navigation and the transit and transfer of merchandise have been little hampered by requirements that contradict dominant models of efficient, if inequitable, moneymaking (Bloch 1999: 72). That said, the grave risk that a drying Pantanal poses to the interfluvial system is uncontroversial. Indeed, I first learned of it from an international shipping lawyer and co-owner of a transshipment company whose boats ply its waters; the lawyer’s ambivalent communication signals a troubling, transnational mode of apprehension, especially pronounced among educated professionals. They recognize the intrinsic value of natural habitat and understand the coming global water crisis to which eco-blind engineering contributes, but with genuine sadness, they accept that there is currently no viable alternative to the destruction.

More generally, international agreements encode shared values and encourage economic cooperation and information exchange, but they also tend to facilitate world trade in aquatically destructive modes, often overriding national law. In apparent paradox, written law that calls for the protection of water, habitat, and people is just as likely to protect those who cause their disappearance. Social reality often resolves the apparent paradox by simply avoiding inconvenient implementation and enforcement. In addition to lists of items that signal awareness of environmental values, agreements between multinational corporations, international development banks, and national or provincial officials employ other juridical gambits. For example, they create zones of *ambiguity* that erase national boundaries, effectively repressing the exercise of the political right to reject

exploitation by local citizens of sovereign states (e.g., the Yacyretá dam and Barrick Gold mines; see Chapter 8),¹⁶ or they target zones of juridical *proximity* that use convergent international boundaries as a cartographic rationale to intensify militaristic control (e.g., Bush designating the Triple Frontier at Iguazú Falls an “axis of evil”; see Chapter 8).¹⁷ Within nations, justice institutions use juridical *evasion* in their attempts to resist just claims for legal implementation (as did the Argentine Supreme Court in the Reconquista River Basin case; see Chapter 7).

Along with mundane engineering of potable water, sanitation, and waterway systems and outright repressive violence, such juridical gambits combine to mark the space of the “geopolitical ecological frontier” (Gandy 2003: 18). Actors involved in aquatic struggles track back and forth, linking events in hinterlands to cities, making the patterns of exploitation and resistance legible to wider audiences. Demands to halt the assassination of landscapes continue to be cut short by assassination of the environmental activists who make the demands.¹⁸ Everyone is affected by these aquatic events but, like most who habitually turn on the water tap to fill a vessel, inhabits the realm of the “unthought known,” where the human relationship to water, while deeply part of experience, is rarely explicitly described (Rubenstein 2010: 9, reinterpreting Bollas 2008: 19).

Above all, the economic significance of waterway development and global shipping more generally depend on cities, which in Brazil and Argentina, as elsewhere, are located most often on rivers. Two out of three of their Atlantic coast megacities are on rivers.¹⁹ The two coastal cities on rivers in focus here—Buenos Aires, a megacity of twelve to thirteen million in Argentina at the mouth of the Paraná-Paraguay Waterway, and Salvador, a city of about three million in the forested coastal strip of Brazil’s dry northeast—are both at the bottom of the urban water stress index (0–25 percent), indicating that most people have sufficient potable water for their needs.²⁰ Yet both cities experience severe aquatic dilemmas because of pollution, insufficient or badly designed infrastructure, and the ever-widening gap between rich and poor. These dilemmas resonate throughout all cities but especially cities on rivers. About half the world’s people cluster in about 3 percent of the earth’s land area (White 2010: 173), and the Americas have the highest rates of urbanization in the world.²¹ As social actors and scholars redefine “the rational use of water” to focus on core, interlinked goals of habitat health and social justice, and as we scale up our understanding of humans as “geologic” or “geographic agents” (Glacken 1967), cities and their wider environmental impact on global water resources must become a topic of greater significance (White 2010: 173).

Frameworks of Port City Comparison and Interpretation

This study of aquatic cultures focuses on the way human beings in unique historical and cultural contexts imagine themselves as part of their aquatic habitats. Basic ecological frameworks set the stage for ethnographic action.

The industrial ecologies and spectacular landscapes of port cities provide contextual grounds for comparison, contrast, and negotiation at nested scales (coast, watershed, waterscape, infrastructure, and architecture) within which I discover spaces of social interaction amenable to participant observation.²²

The singular awe I feel when near container ships lurks within the idea of studying port cities, which is how this project began. These colossal floating commodity dens transformed the relationship between time, space, and transport costs, thus shifting east-west patterns of production and consumption (Harvey 2006; Levinson 2006). The abstract idea of globalization became concrete after watching cargo ships. Viewed from shore on a calm day, the steel hulks hang on the blurred horizon, their hidden cargo in neatly colored stacks. They move steadily closer through dredged channels and then tie up to giant concrete docks with potable water infrastructure, fueling trucks, and lines of sky-piercing cranes. Logistic information streams into the heads of crane operators who, in addition to reading in-cab computer screens, read hand signals of tiny men below guiding suspended boxes onto a stack or a truck bed. People and machines, flesh and steel coordinates in the pathways of thousands of tons of products, move to and fro, near and far, linking farms, factories, and markets.

Except for breeze-swept waters and cries of birds, nature seems practically banished from the scene. Gone is the hurly-burly of port life in days of yore. Less than twenty years ago, the docks needed thousands of dockworkers to unload and stow cargo and thousands of bodies to service the workers with food, supplies, and sex. Today's container port operations require only a tiny fraction of yesteryear's local labor. While visiting port cities, I wondered how local people and maritime ecologies fare where a city hosts these colossi, their neighborhoods displaced and seen from afar as mere nodes in global shipping networks.²³ Water itself, as substance, territory, and boundary, gradually came into focus as the *raison d'être* of the project. As a subject composed of bundled sets of beliefs, practices, circumstances, and natures that reveal social inequalities, water retains the potential to unite across unfathomable divides.

Gradually, I came to understand the amount of contamination that comes from upstream as well as from ships (although one can hardly overstate the significance of the ships' presence). The deeper I got into the fieldwork, the more I moved back from narrow, militarized port zones, which, in any event, were relatively difficult to access. Reading across scholarly disciplines, I began to think about the cities I explored as concentrated human settlements between interiors and exteriors and as condensed cultural political sites of convergence.²⁴

And so I framed this research by basing it on a kind of place, not on a kind of people; my quest is for dynamic cultural conjuncture rather than the elaboration of a culture in kind. The shift away from creating research frameworks based on ethnic, racial, gender, and class categories avoids giving power to classification as a mechanism for social order and control.

Moreover, the place-based framework holds conceptual and tactical relevance, given the dynamic cultural pluralism characteristic of cities, especially cities linked to historically key trading routes.²⁵ Cultural conjuncture assumes an inherent instability and multiplicity of meaning that emerges when people construct identities and movements. As they come together to interact and exclude and involve each other, they contribute to what Arturo Escobar calls “a political ecology of difference” (2008: 6–18).²⁶

Interpretive Dilemmas Unique to Waterscapes: An Overview of the Book

The reader will accompany me into situations taking place in, or in the shadows of, a series of precarious waterscapes, selected because of their prominence as global icons of beauty, pleasure, freedom, or wealth. The first part of the book takes place in Brazil, the second in Argentina, which follows the fieldwork route. Fieldwork begins in Santos, the largest port in South America, which serves also as my training ground in infrastructure, ecology, jurisdictional conundrums, and activist struggles.²⁷ What I learn in Santos, where the port completely dominates city life, provides a basis for comparing the fundamentals of urban aquatic ecology in Salvador and Buenos Aires, where the port zones are important yet do not dominate urban life. In each city I interview experts in water management, transport, policing, port administration, law, geography, and social justice. I also study maps and observe and participate in demonstrations, meetings, and symposia, and after enjoying delicious hits of espresso, I walk many a maritime edge. C. Jason Dotson, project videographer, supplements my digital still photographs with moving images. These activities provide me with the data to build holistically toward a working model of the (dis)connections of water, sewage, and drainage infrastructure between port zone and city and between city center and outskirts.²⁸

Law and crime arise throughout the situations as ideals, tactics, texts, and technologies. People commit acts of water contamination in the course of their everyday lives, thereby normalizing such acts and disappearing them from consciousness. Even when national constitutions declare such acts illegal, they persist. By moving the analytic gaze from place to place, across habitats, from local to global, I tease out some of the more general forces and conditions that lead people to perpetrate crimes against nature. In the first half of the book, about Salvador, Brazil, I examine the literally stinking, subliminal, and bureaucratic underground habits of human occupation, linking them to events on the bright, hazardous, seductive surface. Here, locals enact rituals and festivals in water landscapes with an intoxicating mix of dance and crime, an intensely commercialized folkloric inheritance from the time of slave revolts. Undergirding while undermining the dizzying diversity of social action, sewage and sweet water streams mix flagrantly in seeping ditches, oblivious of symbolic systems that mandate

decent distances between purities and dangers (see Douglas 1966). Political dissent is rare indeed. In contrast, in Buenos Aires, where criminal acts of pollution take place with habitual impunity in an indubitably more vast and degraded riverine environment, this political ecology of water focuses on activists struggling to hold perpetrators and government colluders to account. Many scenes move away from the waterscapes at issue to public spaces where activists and artists convene, contest, and invent or reuse tactics of resistance.

Each story entering the larger narrative focuses on people who, though not necessarily self-identifying as activists, intentionally entangle themselves within constellations of sociopolitical and economic factors and factions, learning in the process how to make use of different kinds of knowledge and engage with different kinds of jurisdiction-specific authorities and codes. I hope to use ethnography to forward the aims of these courageous, dedicated, burdened, yet inspired few and, in the process, reveal webs of institutionalized obstacles that ignore, drain, and at times kill their best intentions and energies. The narrative also includes professionals involved in routine water management procedures. Engineers, administrators, public health, and other officials are paid to provide cities with potable water and healthy beaches, wetlands, and harbors. They are also charged with protecting against floods, waterborne diseases, and contamination. Although often constrained by skewed priorities and bureaucratic division, professionals nevertheless hold the keys to unraveling waterscape-harming predicaments.

Together, the stories present a mosaic of criminal and legal plots that are connected by the dialogic encounters of the ethnographer on a journey. Like a magic act, however, the presentation of crime, the actual enactment, remains veiled for obvious reasons from prying researchers who best rely on the side-glance rather than the inter-view. Difficulties studying the habits of environmental criminals, from family businesses to privately policed, PR-protected corporate enterprises, include the inability of many thousands of victims in plant, animal, and elemental forms to testify except through human intervention. In this sense, my focus on activist resistance allows me to situate this account indirectly among hidden or unassailable perpetrators, a preponderance of victims, and a proliferation of law. This complicated terrain, unknowable in full, holds organized and purposefully disorganized currents of resistance that manifest in meetings, demonstrations, manifestos, and graffiti. The global trend toward increasing police suppression of legal protest and mass media's double-edged potential make tactical diversity in activist organization and style necessary. As building blocks of social movements, committed individuals and small groups rely on tactical diversity to bring them through the long stretches between the major crises that precipitate mass mobilization. Their activities provide local place-based foundations for global social movements and inspiration for the stories that follow.

Searching for urban landscapes, using water as a theme and a foundation of survival, allowed me to study how people use and negotiate their power relative to nature. I bring forth the storytelling form from fieldwork to analysis with three goals: (1) understand port cities as aquatic *cultural* landscapes shaped by long histories of global connection, (2) trace crime and law as concepts that activate interpretive frameworks and institutions, and (3) illuminate the work and the obstacles entailed in the work of otherwise ordinary people who rise up out of their own personal circumstances to join struggles to protect their habitat. Both the researcher-writer and the activist (albeit grounded and aimed in different ways) must learn how to creatively link the rather technocratic subjects of water management and environmental crime to cultural impulses for change and social justice.²⁹

The following paragraphs summarize key events, themes, and characters in the chapters, each organized according to a primary aquatic context (lake, dunes, springs and taps, ecoreserve, rivers, harbor, delta, hydroelectric dam, and gold mine).

Part I begins with an introduction to the city of Salvador. Chapter 2 follows with the first set of ethnographic scenes and introduces Antonio Conceição Reis, who, as previously mentioned, dedicated his life to saving an ancestral lake and empowering the local children who ought to inherit it. In talking about what the lake means, Antonio represents this unique aquatic space as a social fact as well as a cultural icon. And more particularly, in his self-assigned role and identity as a place-based social actor, he expresses the strong popular sentiment that the combination of building, housing, and tourist-trade developments and the drilling of illegal wells will compromise the integrity of the lake. In this regard, ambiguous, inadequate, or buried hydrogeological data deflected enforcement of protective legal action. The chapter considers the diminishment of nature and how communities might create allegiances to common water sources in globalized settings.

In Chapter 3 I represent the vitality and rebelliousness of reinvented waterfront history by recounting a trek across the dunes with Antonio, a TV crew filming nature, and a posse of heavily armed park guards. As we approach the peak where escaped slaves once looked out for ships and whales (for their oil), we hear shots. “Banditos!” say the guards as they pose theatrically, guns in hand. From rebel slaves to contemporary real estate bandits, the rich past energizes the present with images of uncontrolled liminal dune space. The chapter then moves with the neighborhood into the festival cycle of Carnival. Two community processions dramatize the ritual significance of coastal sites and routes in the symbolic enactment of history, race, and religion.

By attending to less visible or invisible water sites, Chapter 4 illuminates how water, sewage, and drainage infrastructure projects do not simply add services and expand access; they also lay waste to natural and historical water resources that might otherwise provide future alternatives.

Focusing on marginal aquatic ecologies at the neighborhood level and in the port zone, this chapter provides a critical analysis of how hierarchies of internationally financed urban development affect water ecologies. Key scenes, illustrative of the materialization of globality, include walking tours to colonial water taps enlivened by graffiti artists but ignored by city revitalization planners and to springs and coves bounded by asphalt, privatized by hotels, and polluted by sewage.

The Coda recounts the details of Antonio's assassination on the basis of news accounts. On the morning of July 9, 2007, he was gunned down in front of his next-door-neighbor's garage and his body thrown in a car trunk and driven to an ecological reserve where car and body were set aflame. Police are suspects in the criminal case. However, the grave questions surrounding the case cannot be resolved by condemning a selection of bad apples. My argument focuses on a network of conspiracy and threat and is based on my videotaped interview with Antonio. The assassination indicates the extent to which criminal violence protects the gap between water law code and practice. In other words, Antonio's tragic end in the ecoreserve establishes a connection between assassinated persons and assassinated habitats.

The opening of Part II transitions to the city and province of Buenos Aires, Argentina, and includes an introduction to the cultural politics of water: The economy is still too close to default, the riverine ecology is devastated, and the people are out on the streets claiming their human right to live in a healthy environment. Moving from Salvador to Buenos Aires, I transition from an ameliorated aquatic environment to an intensely polluted one, from a city whose people continue to suffer violent racial oppression to one where water activism is a vehicle and principle for democratic organizing and where race appears not to play a dominant role.

Framed by continental plates drifting through the Holocene epoch, accounts in Chapter 5 interweave the infrastructure and settlement history of Buenos Aires from colonial times to the present. Archival research reveals both the constructive relationship between engineering and architectural aesthetics in the colonial era and the destructive effects of war, authoritarianism, and privatization of water services into the present. The key scene is the World Water Day March from the Congress to the Water Palace, where I establish *entrée* into local activist circles.

Chapter 6 explores the relationship of waterfront dereliction and development. Comparison of signature bridges in two popular yet contaminated harbor-front destinations highlights the artistic vitality of La Boca's degraded marginal spaces and reveals the industrial obsolescence that underwrites Puerto Madero's postmodern architectural success. The chapter explores waterfronts as dynamic spaces where capital flows are predicated on fixities of class and race and defined by outsider art.³⁰

Chapter 7 focuses on neighbors fighting to reverse eco-blind engineering in the Tigre Delta. A diversion canal, intended for flood control, altered tidal and river water flows, contaminating the delta with sewage, industrial

poison, and garbage. Fish cannot breathe. Residents cannot drink. If the government would follow its own laws, the devastation might be reversed, but the government either cannot or will not. The chapter tells the story of one activist who began his struggle over the canal issue in the 1970s and the assembly of neighbors who fought along with him all the way to the federal Supreme Court. Key scenes follow water events at three levels: twice a month neighborhood assembly meetings on the Tigre River, a meeting between a group of representatives from various assemblies and public lawyers, and the first interbasin encounter of all the assemblies from the greater Buenos Aires province.

In the microscale of Chapter 8's street protests, like the transnational scale of larger social movements, the effect of political action intensifies through coordination of networks. A wellspring of popular idioms, tactics, and images provides the communicative foundation for the merging of collective agency. In the key scene, on a narrow downtown colonial street, neighborhood people from a distant highland town in the Andes confront the corrupt provincial governor who has sold out democracy and the environment to a Canadian mining company. Lowland river people, who traveled long distances, also raise their voices to protest the manner of their displacement by the Yacyretá hydroelectric dam. Uniquely Argentine in energy, persistence, and character, the street actors draw from globally familiar symbolic resources to reveal the criminal perversity of environmental destruction as legal and illegal business.

By melding interpretation and analysis within a comparative framework, contrasting two port cities in two contiguous countries, I demonstrate the power of culture in shaping human-water relationships. Eco-blind engineering, jurisdictional conundrums, and sidelined scientific evidence as well as outright corruption present formidable obstacles to neighbors working together to reverse complex, entrenched forms of environmental destruction; they emerge here as research themes worthy of future pursuit. Foraging for culture across these contexts, engaging in dialogue with extraordinary individuals, I work toward the unfolding of a wide-ranging political ecology of water that highlights popular activism in local symbolic spaces.

I

Salvador da Bahia, Brazil

In Salvador

THE PORT CITY of Salvador, in Brazil's state of Bahia, sits on a hilly peninsula with bountiful sweet, contaminated waters cascading through fractures in rocky cliffs and up through shifting dunes on to the streets, docks, drains, beaches, and remnant mangroves. The peninsula's western contour follows the Bay of All Saints; its eastern contour faces the Atlantic Ocean, looking toward Angola. More than anywhere else in South America, Salvador nourishes its strong cultural affinities with Africa. Historically, the wealthier, whiter skinned built their homes and offices on the tops of hills and the poorer, darker skinned built into the forested hillsides and at water's edge. Despite a shift in the valuation of beach property, racialized patterns of social inequality remain readable in the much expanded and more tightly juxtaposed urban landscape. With forests almost gone, the vast *favelas* (irregular settlements) with their higgledy-piggledy vernacular style compete visually with protected condo-shopping mall pastiche and towered clusters of glass and steel. These urbanized variations could hardly be imaginable to colonial ancestors, whose architecture remains, interconnecting contemporary scenes with romantic gravitas.

Three neighborhood-sized waterscapes outline the main foci of fieldwork in Salvador. Between November 4, 2006, and March 4, 2007 (see Chapters 2–4), I took up temporary residence between two, a beach and a lake in the district of Itapuã. Until the 1960s, twentieth-century Itapuã was a fishing village boasting sand, freshwater, lots of *dende* palms and coconut trees, and a few families who journeyed to city markets on horseback, along arduous river-crossing beach trails, or by sea. Today, as an international destination of desire within the

city's outermost Atlantic edge, Itapuã claims its share of tourists. Although the place is connected by infrastructure (roads, electricity, water, sewage, and telecommunications) and its tourists land regularly at the nearby airport, it still communicates feeling-tones reminiscent of a genuine fishing village (but without much cooperatively caught fish).

Salvador's port zone on the city's bayside below the dramatic escarpment separating upper and lower cities marks the third waterscape. Together with the adjacent Comércio district, the port has been a center of power and activity for traders and slavers from the 1500s. The Comércio struggles to come out of the steep decline precipitated in the 1970s when "ACM" (A. C. Margalhães, the Robert Moses of Salvador) built a highway into the peninsula's interior, shifting development away from water's edge for the first time. Opening up heretofore inaccessible land, the Parallel (as the road is called) pulled away old business and new construction from the Comércio. However, today's new, international investment is revitalizing the lower-city harbor-front real estate, identified as little used or derelict, and prosperity appears imaginable again.¹ With law and luck, the changes will not be as ruthless as ACM's 1980s renovations, which included setting fire to indoor and outdoor markets as well as all the stilt homes (*palafitas*) of the poor that perched between urban coast and bay. As one Bahiana-American remembered from childhood, people in the upper city gathered along the cliff edge to watch the fires in the city below, worrying that the refineries just beyond the palafitas would explode.²

Key Symbols and Rhythms

A sculpture of a mermaid (*Sereia*), a metallic, white woman-fish rising from the sea, marks the entrance into Itapuã (see Figures 2 and 3). In one poised swoop, her breasts and fin point to sky, her face tilts up and back to look in a mirror held high by one human arm, her theoretical reflection an open, changing composite image of sea, light, and art; her other arm bends seductively toward her waist. As folkloric double of the Afro-Brazilian sea goddess Yemanjá, this mermaid's sculpture is a central geographic reference point in daily life, as in "Meet me at the Mermaid." In front of her deflected gaze, a busy intersection hums where the bus turns on to the main commercial avenue, named after the beloved musician Dorival Caymmi. In a small open market in front of an electronics store passersby can purchase fruit, roasted peanuts, cigarettes, and sundries; an HSBC bank squats on the corner across from the open market. During Carnaval and other crowded festival days, military and civil police headquarters, one on either side of the Mermaid, each vie for control over uncontrollable streets.³ As a key symbol in Bahian folklore and popular culture, the Mermaid has almost as many copies as Campbell's Soup cans. Her image functions quite distinctly from, yet resonates with, Yemanjá, an African divinity (*orixá*) of adept religious devotion believed to be mother of all humanity and provider of water and fish, although the distinction between

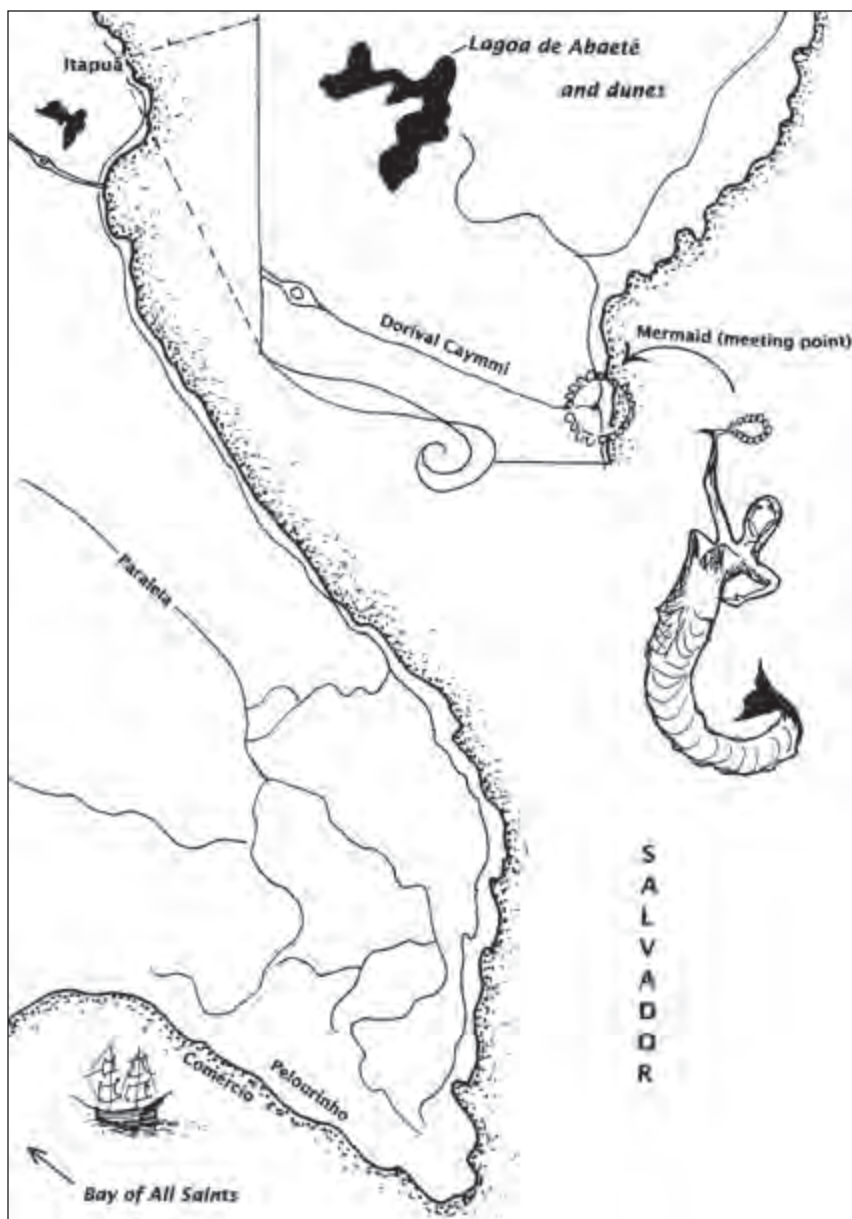


Figure 2. Salvador, Itapuã and Lagoa de Abaeté. Cartography based on maps by Geocad Consultorio e Planejamento, Salvador, and Editora Trieste, São Paulo.



Figure 3. *Sereia*, the mermaid sculpture related to goddess of the sea Yemanjá, at the intersection of Dorival Caymmi Avenue and the Atlantic Ocean.

the folkloric and the divine is blurred every February 2, Yemanjá's feast day in Salvador.⁴ In sunlight and moonlight, the fixities and flows of human-water relationship reflect in the Mermaid's/Yemanjá's mirror up and down the Bahian coast: Water inspires spiritual and artistic imagination according to place. Many generations after the slave trade tore Africans from their homelands and brought them to Brazil, initiating the diaspora, Yemanjá's supple image radiates homegrown divinity along the shores of the Atlantic (Drewal 2008).

Walking past the Mermaid on the sidewalk above the beach in the evening, passing shops and the civil police station across the street on the left, the aroma of fish and black-eyed peas frying in dende palm oil (*acarajé*) signals the approach to Itapuã's center, where the beach road meets the hill road that leads to the lake, Lagoa de Abaeté. Bahiana Cira's famous *acarajé* food stall has been in this spot for fifty years or so. Now it partners with a large seaside bar, the Posto 12. Embodying tradition, Cira and her Bahiana employees dress in white blouses, skirts, and kerchiefs, admired for their beauty as they cook and sell sustenance and sweets. By nightfall, customers have wisely left the beach beyond to the banditos. Noisily packing themselves into the plastic chairs around tables that fill the sidewalk, attentive beer-wielding waiters take their orders. Revelries continue deep into the night.

The whale cemetery marks another symbolic and geographic reference point. Behind the revelers (some paces back toward the Mermaid, between the parking lot and the beach) the tide returns the bones of whales, creatures once central to the coastal economy of escaped slave settlements (*quilombos*). At certain times of the year the rough sea's force carves a hole in the sea bottom nearby. It churns everything up from the deep and sends whale bones to the beach. I had been wondering about a whale fin in the parking lot: It looks like a poorly wrought sculpture mounted in a poor location. Eventually, I discover that it is indeed a real whale bone that had been discovered on the beach, painted, and mounted in a concrete base.⁵

And so the fieldwork in Salvador proceeds bumpily along, governed I suppose by a set of time frames that I trace with more or less attention. The rhythms of political, ritual, seasonal, and personal⁶ change structure my day-to-day plans. Most importantly, the regional water system's director, whom I interviewed in Santos, warned me that changes would result from the October election: Salvador's state and local governments would no longer be politically aligned, and water politics may be difficult.⁷ But interviewing in the governmental transition turned out to have benefits. January was the turning point. Outgoing officials looked benignly on the past and worried out loud about the future. Incoming officials tried to figure out how not to fall prey to their predecessors' failures.

My ethnographic focus shifted in Salvador's world-renowned season of popular celebration. I had also been forewarned that almost no one expected water or port management professionals to work regular hours from December through the New Year. The buildup, peak, and wind down of February's Carnaval season with its ritual step washing of symbolic churches, street parties, and processions, all phases set into motion by drums, dance, song, and beer, also presage irregular office hours. I worked during these calendrical events in Itapuã's waterscapes.⁸ The weather takes no cognizance of seasonal celebrations; rain through the peak "dry" season wiped away the profits of the beach shacks. And so it goes, in layers and spurts, possibilities realized and foregone.

Environmental time frames enter data and the imagination too, like the slow, ancient migrations of parabolic dunes or the smelly collections of sargassum and other seaweeds that cyclically appear and disappear on the baking shoreline, annoying beach-shack owners prohibited by law from removing this critical food of maritime creatures. Some time frames, like the chaotic schedule of city buses, remain elusive. It took me more than a month to learn that I could cut my travel time between Itapuã and the port by an hour (usually a two-and-a-half-hour trip in stop-and-go traffic) by taking the Parallel bus route rather than the coastal road. Other time frames were easy to pin down, like the shifts of port technicians overlooking docks (three men work three day shifts, then three night shifts, and then have three days and nights off) and container ship approaches and departures (room for only two, three in a pinch, in the dredged canal means they sometimes wait two days to get in).⁹ Yet as I learned in conversation

with a young man working his way through school as a guard in the port entrance, tankers represented most of the ships lined up on the horizon, waiting to get into the petrochemical port of Aratu farther inside the bay. The port authority aims to minimize the dockside time of ships laden with dangerous chemicals.¹⁰

Daily shipping rhythms related more to a historic legal transition than to those taking place in state politics, according to a civil engineer who started work in 1956 (fifty years ago) and was past president of the port authority (1980–1985).¹¹ Everything changed, he said, in 1993 with the passage of the federal modernization law (*Lei do Modernização* 8630/93). Before that law, Salvador's port maintained a labor force of one thousand to two thousand. Since that law, there are fewer than a hundred laborers. Before that law, state operations included building and maintaining infrastructure, ship access and docking, and cargo handling (unloading, organizing pieces, warehousing, and loading). After that law, privatized and containerized operations took over. Now the state does not handle cargo. The private company Tecon has the concession for loading and unloading cargo, done with cranes and computers, making obsolete the organizing and warehousing of cargo. With modernization the port became a spatial intermediary in which cargo moves directly between two modes of transportation, maritime and land (truck and train). Technology in tandem with federal law, in other words, extinguished the vibrant dimensions of human labor and port culture.

Salvador was the first port in the nation to implement the federal modernization law despite Santos being Brazil's largest port. Workers had more power in Santos. Salvador was the first test of rendering laborers unnecessary. "The workers bore all the costs of modernization," said the civil engineer. He described how he experienced the forced transition:

When it was resolved that the law would be implemented, the work in the port stopped for thirty days. We were in a state of war due to the reactions of the operators, how the syndicates felt. There were two or three syndicates at the time. This was a federal law; it was best for the country. The only disadvantage was [for] the workers. The police gave us cover. We asked them to come to guarantee operations. Port activities were moved to Ilhéus for fifteen days, until an accord was reached. Mediators were brought in. . . . No, it didn't get to violence. The president of the company, Viera Lima, had the courage to face them. There have been immense benefits for the country and for the clients. Now all the ports have implemented the law.

Today, two or three private terminals within the area of the port signify the modernization, but that change carried costs that modified the shipping industry in unforeseen ways; if cargo is not ready for loading, for example, the ship leaves. In a tone of wistful pragmatism, the elderly engineer

remembers the 1950s, when the ships would stay between two and five days and he would bring his wife to dance at parties on board.

Everyone around here knows this: Through law, technology, and trade, the force of globalization (or modernization or development or revitalization) reshapes social space and the human-water relationship in ways that affect both the wealthy and the workers but each differently. In Salvador destroying up to 1,900 jobs of mostly black workers without providing alternatives for the men and their families can be framed as either a necessary sacrifice or a state crime: It appears that the former perspective carried the day, naturally.

Titanium Dioxide and Yemanjá: Making Connections Visible

Before moving on, I present a gringos-in-Bahia example of how ethnography, with its partly systematic and partly serendipitous methods of participant observation, can reveal connections between phenomena that are visible yet unconscious.

On this as on every February 2, thousands of Salvador residents and visitors bring offerings of flowers, fruits, perfume, dolls, and other gifts to sacred sites along the beach. In honor of the event, the American Club hosts a celebration near the principal site of Rio Vermelho, which I attend with friends. An executive from the Millennium Corporation joins our table. Millennium owns chemical factories around the world, including one on the Bahian coast north of Salvador. In a whisper to me, my friend raises the issue of an ill-placed chemical factory stinking up a beautiful beach with sulfuric acid. The executive generously agrees to my request for an impromptu before-dinner interview in which he enthusiastically counters the factory's negative image. The factory draws in river water and mixes it with sulfuric acid to extract iron ore from black dune sands, thereby producing titanium dioxide (TiO_2), he explains. The white substance has opaque, reflective, and stabilizing properties, and industry uses it in paint, glossy magazines pages, plastic beach chairs, sunblock, toothpaste, diapers, adhesive bandages, and synthetic coffee creamer, among many other products. "Look around you, wherever you are—you will see this chemical!" he says. For better or worse, TiO_2 and any environmental risks associated with its manufacture assume a prominent role in the material fabric of contemporary life. The company does not find it cost effective to move the factory to the designated industrial zone where wastes can be handled more appropriately; the executive says that law now prohibits construction of such a factory where the river meets the sea. And the question of whether corporate investments in dune restoration using native plants or the adoption of Australian water-recycling processes sufficiently offset environmental risk hangs as heavily in the air as the sulfuric acid fumes.

I present this example because of my surprise at how a chemical as basic as TiO_2 has been naturalized to the point of disappearance. It may be worth noting here, considering the occasion on which the conversation

takes place, that our host has explained that Yemanjá, like TiO_2 , is said to be made of water and sand (brought to life by wind and sun). Afro-Brazilians in the diaspora reinvented the Yoruba-originated image of Yemanjá, who appears in paintings, jewelry, clothing, art, and public sculpture probably created with TiO_2 . And yet, in contrast to Yemanjá's vibrant spiritual and folkloric presence, we are oblivious in our absorption of chemicals like TiO_2 . Although intertwined, the goddess and the factory represent two different ways of thinking about our relationship to water. We cannot see them as kindred even though they share social and aquatic space; seeing them as kindred, however, allows us to experiment with our ways of thinking about and using water as substance and landscape, rearranging what we know. To protect water in its myriad forms, we must engage the full scope of culturally patterned ways of knowing and unknowing.

2

Sense and Science at the Lake of Dark Waters

Nature was in fact already receding: its image, consequently, had become exalting.

—HENRI LEFEBVRE, “Contradictory Space”

Aesthetics of Doom

The procession of coastal dunes moves with the prevailing wind, the depressions among them cradling small lakes called “eyes of water” (*olhos d’agua*). Fed by rain from above and aquifers from below, eyes of water pool in collecting points of dynamic equilibrium. Of all Bahia’s eyes of water, Lagoa de Abaeté alone is world famous, and lyrical motifs about mystical powers of its dark waters and white sands lit by full moons call to romantics far and wide (see Figure 4). Popular legends from Indian and African traditions, contemporary ritual practitioners of Candomblé, and Evangelical baptisms keep alive the lake’s reputation as a spirit zone of mystery, praise, and danger.¹ The lake also figures prominently as stage and inspiration in Brazilian musical history. In the 1960s, before their fame went global, Vinicius de Moraes, Caetano Veloso, Gal Costa, and Gilberto Gil swam nude in Lagoa de Abaeté and wrote the legendary songs and poems that today lure busloads of Brazilian and international tourists to the lake (Jacob 2007). But in 2006 you will more likely hear the explosive world music rhythms of Pura Gasolina’s Reggaeton with Daddy Yankee or Parangolé’s shake-style “City Truth” (*A Verdade da Cidade*) than the classically soothing soft bossa nova and samba rhythms of Dorival Caymmi or old-school music. Every day brings hundreds of visitors to the lake, and on special occasions thousands crowd its shores.

Abaeté’s distinctively irregular amoeboid V shape, photographed from dune or satellite, has become a central element in Bahian iconography (see Figure 2). The image of Abaeté travels through the global media as a flat icon that is reproducible by disparate interests. This



Figure 4. Lagoa de Abaeté, looking away from the restaurants and shops.

circulating abstraction is an incentive to transformations that threaten the lake's own much-adored physical existence.² Abaeté and other eyes of water in and near Itapuã are also integral to local festival and caretaking traditions. Gloria, owner of a beach-shack bar-restaurant, has gone there since she was a little girl but now finds the lake in sad condition and tiny, compared to before; the lake's darker and warmer waters suggest pollution, she said.³ Could automotive traffic too close to the lake cause the degradation, or bar-restaurants and their patrons, or the lack of maintenance? In the old days, there would be only a few people selling coconuts, no more, and the children used to have swimming contests from one side of the lake to the other. When the laundresses came with their kids, loads of stuff—clothes, pots and pans, food, garbage—inevitably fell into the water. But two or three men with diving masks and snorkels regularly dove down and pulled everything out. No more.

This chapter explores Abaeté through the lens of Lefebvre's insight that opened the chapter: As people spread and engage with the lake's exalted image and its nature recedes, one man alone in Itapuã fights to bring light and change to this paradoxical trend.

Not completely immune to the hype, I scope out Abaeté as a possible research site on one of my first mornings in Itapuã. As Jason and I approach the rise above the lake, two teenage boys appear. Their green

T-shirts say “*Meninos de Abaeté*” (Children of Abaeté) on the front and have the logo of Nativo de Itapuã on the back, the nongovernmental organization (NGO) and ecological, sport, and cultural group under whose auspices they work.⁴ Seeing Jason and me this first time as any other strangers with interest in the lake, the boys do their job: One engages us in conversation and takes us to a kiosk with postcards, printed materials, and small gifts; the other gets *Senhor* Antonio, the lake activist who would become my guide, research collaborator, and friend. Antonio’s genealogy is steeped in traditional culture: His father was an *aguadero*, a man who collects and delivers water in horse- or ass-drawn carts, and his mother sold acarajé to revelers during lake festivities. He puts his commitment to the lake and the children front and center in his life. He always asks, sweeping his arm across the landscape, “If we [the people of Itapuã] cannot preserve Lagoa de Abaeté for future generations, what inheritance do we have to give?”

I tell Antonio about my research, and Antonio tells me about himself and the children. While we stroll about the area, he sketches out a brief history of lake issues and describes the properties of the native dune vegetation that he and the children have planted nearby (e.g., the liquid inside small nuts of these palm trees soothes sore eyes, leaves from this bush are good for kidneys). The working children receive a small stipend as the result of a grant proposal Antonio wrote on behalf of Nativo de Itapuã.⁵ About fifteen children work morning and afternoon shifts in teams of five to eight, educating the public about the delicate dune ecology underpinning the lake’s famed mystery—mammals, reptiles, and birds; cashew, coco, and mango trees; and keenly adapted plants whose roots prevent dune erosion while allowing rain to filter down and whose leaves frogs drink from—and about the danger fire poses to the lake. They relate the folk tales that tie nature to culture in Itapuã tradition. In addition to greeting and educating tourists, the children do systematic surveillance of lake users. They record dune walkers, baptisms, outlaw vegetation seekers, drowning victims, swimmers, assaults, outlaw fires, fishing, police patrols, photographers, videographers, laundresses, and ritual makers. They acquire an important set of skills in the performance of their work, but more importantly, being a *Menino de Abaeté* offers a welcome respite from the claustrophobia and dangers of the surrounding favelas from which they come. It also provides them with an alternative vision of career possibilities, a pride of ownership, and an investment in this place whose beauty draws people from around the world. But not everyone cheers the children’s presence. Some local business owners see Antonio and the children as competition and sometimes respond with vituperation to their tourist-diverting, lake-protecting oversight.

Like all the city’s natural freshwater lakes, Abaeté comes under the jurisdiction of Bahia’s Bureau of Water Resources (SRH, Superintendência de Recursos Hídricos), which by law subjects it to levels of special jurisdiction: (1) Established in 1987, the Area of Environmental Protection (APA,

Area de Proteção Ambiental) removed the most visible causes of water degradation and deforestation by relocating the illegal settlements of the poor that had grown up next to Abaeté in the 1970s and 1980s along with urban development; (2) established in 1993, Abaeté Metropolitan Park (Parque Metropolitano de Abaeté) gives the city special jurisdiction of the lake and 225 hectares of dunes within the APA. The park's landscape designers, architects, and lighting and native plant consultants stated their intention to urbanize while professing respect for local tradition, popular memory, and the natural landscape. They espoused laudable, contradictory, difficult, and disingenuous goals.

Antonio insists that environmental preservation has never been a priority for park administrators. The city's first move was to construct (on "degraded ground," the administrators claim) a huge concrete platform (a House of Music) overlooking the lake; the platform supports bar-restaurants, tourist stores, and restrooms. In other words, with no federal agencies and laws to intervene, after taking down the humble shacks (*barracas*) built of natural materials along the lake's edge, the city built exactly the kind of expansive and permanent structures that the federal government vigorously prohibited on Lighthouse Beach (just a short walk away, through town or over the dunes, on the Atlantic).⁶ Huge crowds gather on weekend nights to drink, eat, and dance to music blaring from competing sound systems. On moonlit weekends and festival nights, the *festas* (parties) can attract hundreds, even thousands, bringing all the excitement and problems that large crowds entail.

Too often, for instance, an inebriated partyer goes for a swim and drowns in the deeper pockets of the lake. Causal theories of deadly lake encounters span from the geophysical (pockets of colder water) to the fantastic (monsters and other beings such as Abaeté, the fisherman who gave the lake its name, said to have been tied to the bottom of the lake within ankle-grasping distance of the surface by a jealous Oxum for time everlasting). Concerned about recent unprecedented numbers of drownings and always on the lookout for practical solutions, Antonio asked the city to pay for a line of buoys demarcating a swimming area. Some local politico replied that he would rather not fund the request as buoys would ruin the lake's aesthetics, whereupon Antonio asked, "Well, how do you think floating corpses will look?" He got the buoys—not as many as he would have liked but some. That brusque exchange captures the mercenary quality of the city's aesthetic interest in the lake.⁷

A win-win solution resolved at least one conflict between water users and protectors. The residents never considered Abaeté good for drinking, but laundresses always praised its black-tea-colored waters for the immaculate whiteness of clothes washed in them.⁸ Traditionally, in the fishing colony of Itapuã, women washed their clothing in the lake; some women earned money by taking in washing. The laundresses would lay the wash on the beach to dry. At about the same time that attention was drawn to the ecological damage of the lakeside barracas, some expressed

concern about the dirt and detergents associated with clothes washing. In preparation for 1990s park construction, the city removed the barracas, ostensibly to protect the water. In acknowledgment of the traditional role of laundresses, the city built the concrete Laundresses House (*Casa das Lavadeiras*) and the half-moon-shaped platform that overlooks the lake. The structure of the *Casa das Lavadeiras* consists of a long sink with a series of water taps connected to a cistern and city water, restrooms, and a play area for children. Now the dirt and detergents drain away from the lake, thus achieving a happy balance between local tradition and scientific water standards—at least within city planning's interpretive framework. Women, children, and gay men frequent the site.⁹

In 1988, after the environmentally protected area (the APA) was established but before the city built the new park with its Houses of Music and Laundresses, geologist Paulo Eduardo Avanzo published a geologic study that intervened in municipal environmental management. He argues that the illegal settler families, and the laundresses who live and work beside the lake, and even the garbage that piles up there present more of an eyesore than a serious threat to lake ecology (17–20). The real threat, he argues, comes from the intense touristic and residential development that the city promulgates. Avanzo sums up his introduction to the city's suicidal approach:

Thus we see the problems of real significance for the survival of Abaeté: sewage, impermeable surface-coverings, disfiguration of [topographic] contour, retreat of vegetation, location of shallow wells, temperature increase due to deforestation and dark surface coverings, and the loss of subterranean water to the ocean. Generally, the real problems are forgotten [by government and community] because they are thought to be less visible, a little more distant, or under the surface. And they are exchanged for others less important, however more perceptible. . . . But they are also neglected because there is no interest in airing them. (21)

Further on in the work, Avanzo cites a city planning document concerning the relocation of the illegal settlers who had established lakeside barraca-style housing. The city moved them to a place that was even nearer to a sensitive area, a spring that recharges the lake. Apparently, for the city planners, the only advantage of the relocation site was that it was out of sight. The still-illegal settlement with insufficient sewage infrastructure is now hidden behind a dune, polluting without being visible to the lake's visitors (Aragão and Kersten 1986). This example demonstrates how city planners spread real estate aesthetics that trump and choke the environment with disinterest.

Since the nineteenth century, city parks planners have used slum clearance as a common tactic in their urban modernization projects. Matthew Gandy (2003: 88–90) writes about how clearing squatters' shacks in the

southern end of what would become Central Park, ridding New York City of associated stink, filth, poverty, and crime, may have been a *motivating* factor in tilting urban politics toward the park's creation. In her analysis of water conflicts associated with the construction of the Royal Gardens of Athens, linking it to Gandy's study, Maria Kaika (2005: 99) discusses such tactics and negotiations as part of broader dilemmas of land and resource allocation that pit "the creation of 'landscapes of consumption' (entertainment, leisure)" against "the creation of 'landscapes of production' (agricultural land, residential land)." As Avanzo (1988: 16) points out, the odd shape of the 1993 park jurisdiction in Bahia draws one's attention to the dilemma's outcome in Itapuã. The unnatural hard-edged polygon (interrupted on one small edge by dunelike irregularity), rather than a simple elliptical shape, accommodates various impinging residential developments. The overuse of "straight lines, right angles, and strict (rectilinear) perspective" signals the domination of space and the deprivation that accompanies private property (Lefebvre 1991: 409–410).

And so it has come to pass: Getting rid of the illegal settlements and providing an alternative for the laundresses would have been sufficient only if the waters, dunes, animals, and plants had been allowed to restore themselves with only limited anthropogenic pressure. Some of the eyes of water are ephemeral and disappear with regularity. On this, my first visit to Abaeté, Antonio points the finger at the national petroleum company, Petrobras, which built a five-thousand-house development project named Petromar for employees on environmentally protected APA land north of Itapuã. I would learn that Petromar, similar to a number of major housing and hotel developments, reportedly relies in part on illegal wells that threaten the lake and water table. Furthermore, in addition to large-scale development projects, waterscape destruction may happen through myriad small acts carried out with mistaken good intentions. For example, three kinds of native fishes used to inhabit the lake, but so the story goes, a bar-restaurant owner in town had some live tilapia that he did not want to go to waste. He put them in Abaeté, and they killed all the natives.

Despite the 1987 environmental protection law that established the APA and twenty-four-hour police protection of Abaeté and the dune surround, an overwhelming sense of the lake's continuing endangerment persists among those who know the lake. This anxiety persists despite recent state-sponsored scientific research indicating that, contrary to unanimous popular apprehension, the "size" of the lake has not diminished. (What exactly "size" means in this research is unclear.) Ambiguous and hidden hydrogeological data may take credit for deflecting legal action that might curb intense use of the park for urban parties and festivals. Ethnographic interview data and analysis show how community activist and governmental discourses frame contradictions between sense and science. For me, hydrodynamics poses the first real mystery of Abaeté: How does one understand the relationship between above- and below-ground water flows as they change course in relation to anthropogenic advance? In an ideal

world, this would be a scientific question, but in this fractious world, all too often scientific questions disappear in a morass of political expediency and cultural non sequiturs.

Techno-Science and the Visualization of Nature

Contradictory Versions: Attack and Defense

Expertise becomes so dispersed it seems fraudulent by default. Sensibilities of competence and accomplishment seem forestalled ad infinitum. At the same time, however, remembrance becomes transfigured, and one realizes that a key challenge for ethnography lies in this very attempt to understand what counts, where it counts, and how it matters—on the ground in everyday life.

—KIM FORTUN, "Locating Corporate Environmentalism"

I dedicate most of November and December to my general survey of infrastructure and ecology, but I always ask about Lagoa de Abaeté. Each interviewee addresses what he or she thinks are causal factors in the lake's decline. Antonio had singled out the Petromar housing development. My next clue comes from a public educator of the Bahian Water and Sewage Company (EMBASA, Empresa Baiana de Água e Saneamento), the city water and sewage company, who declares that Sofitel draws on the aquifer to maintain its water supply and drains the lake as a result. In twenty years there will be no lake.¹⁰ Sofitel's chief of maintenance contradicts the educator's damning version. The chief frames our discussion by stating that protecting water resources is an important responsibility for the hotel, which is managed by French multinational Accor with an eye toward water sustainability.¹¹

KANE: How does the hotel manage water?

CHIEF OF MAINTENANCE: The hotel was built in 1981 or '82. [This predates both APA and Metropolitan Park legislation.] The builders filled in the natural lake and prepared a section of dune terrain that had some [water] "legs" to make an inter-linked system of three artificial lakes. The third is sited such that hotel clients can enjoy the wild bird life it attracts while eating in the open-air restaurant. [The restaurant and adjoining pool area are lovely settings as long as you do not look at all the jerry-rigged water pipes underneath.] Fish migrated into the artificial system from the legs of the original lake and the hotel added carp. In the rainy season [winter], when the water table is high, the lakes overflow one into the other, exiting from the restaurant lake into the city's storm drains and out to sea. [The Accor website describes it this way: "The Sofitel Salvador lies at the centre of a 250,000 m² park, its delicate facade rising

majestically in a beautiful natural setting complete with lakes, expansive lawns, leafy trees and a rich variety of exotic plants and birds.”^{12]}

KANE: I heard from someone in EMBASA that Sofitel was pumping water from the aquifer that also feeds Lagoa de Abaeté, causing the lake to dry up. Can you comment or explain?

CHIEF OF MAINTENANCE: Abaeté is the biggest lake in the dune area.

In 1998 or 1999 a congressperson [*deputado federal*] allied with an environmental NGO claimed that Sofitel was drawing water from Lagoa de Abaeté.¹³ SRH began a legal action against Sofitel. In response, Sofitel hired an engineering company to research the situation. They put in four deep wells for measuring water level, and SRH regularly monitored the rate and effect of water capture from these wells—two near the tennis courts, two in the dunes nearer Abaeté. Measurements proved that the water used by Sofitel does not have anything to do with Abaeté. SRH then gave Sofitel a permit [*outorga*] allowing it to use aquifer water. The hotel currently uses city water for laundry, the swimming pool, and guest room showers and toilets, usually about a hundred cubic meters per day, depending. Gravity-based city-water reserve tanks for daily use lower some in summer but not to problem levels. They use well water on the golf course.

Sofitel also hired a geologist to study the crystalline rock formation that gives structure to dunes and water flows. The hotel claims that a thick rock wall at least four meters below and parallel to the surface separates the hotel’s water source from the lake.

The Plot Thickens: Law In, Money Out

The chief of maintenance could not or would not give me a copy of or reference to the geologist’s report. I attempt to verify the hotel’s claims. Christmas and New Year holidays have passed by the time I see Antonio again. By this time I have identified the lake as one of three research sites for my study of waterscape conflict and collaboration in Salvador. Antonio says that Sofitel alleges that they are drawing from a deeper water source, that water for the lake itself comes from the water table (*lençol freático*), which is separated from the confined aquifer (*lençol subterrâneo*) by a layer of crystalline rock.¹⁴

The original lake, Lago de Pisquilha, the one that Sofitel built the golf course on, was large and permanent (as opposed to the many ephemeral lakes and ponds that appear in rainy season and disappear in dry). It was rich with wildlife and flora, including lots of orchids. To create the three artificial lakes, the hotel put a pump in the spring that fed Pisquilha. If you dig beneath the golf course, you will find water. Between two and

five years after filling in the lake, Sofitel built 400 houses, then 300 more within the golf course, calling the development the Golf Condominium. Now there are up to 1,500 houses within the area that was Pisquilha, leaving a small golf course around the hotel for hotel guests. This land encompasses much of the dunes. The hotel had so much land that it was able to donate six thousand square meters to the park when it was created in 1993.

Nativo de Itapuã started agitating about the situation in Abaeté sometime between 1998 and 2000. Nativo discovered that Sofitel had been drawing water from the aquifer for twenty years without a permit. Nativo presented its case to the federal Public Ministry (MP, Ministério Público), the independent body of prosecutors with offices at the federal and state levels. At the time, the hotel had fourteen deep wells. MP took legal action against Sofitel and forced the hotel to put in a water system that connected to the EMBASA system and to remove most of the wells. This resulted in a monthly EMBASA bill of \$2,000 in Brazilian reais (US\$1,000),¹⁵ a tidy sum over the course of a year. The MP action was finalized in 2001, at which time Sofitel was fined R\$150,000 and the sum designated for local community projects.

Antonio's Nativo project benefited from the case. The Meninos de Abaeté project had been in the works for four years and was the only one, he emphasizes, already in the works when the money appeared. Much to Antonio's chagrin, many other project ideas popped up when money became available. The MP dispersed the Sofitel money in May 2001, R\$50,000 of which went to Antonio. The following September Antonio's Nativo de Itapuã project started and is the only funded project still operating at the end of five years. In 2006 he entered into a one-year funding agreement with SRH and with the Bureau of Environment (SMA, Superintendência do Meio Ambiente), state-level agencies for water and environment, respectively. He hopes to secure an annual renewal agreement. The Meninos each make R\$80 per month.¹⁶

Curiouser and Curiouser: Satellite Science

I still had questions regarding Sofitel's responsibility for the receding waters of Abaeté. And if not Sofitel, or not only Sofitel, then who or what caused the reduction? Then Dr. José Maia Landim Dominguez of the Geosciences Institute of the Federal University of Bahia (UFBA, Universidade Federal da Bahia) threw me off track in a brief phone call:¹⁷ "Lagoa de Abaeté is a drainage that was dammed by migrating parabolic dunes sometime during the Late Pleistocene.¹⁸ Contrary to what many people believe, there has been no significant decrease in lake area during the last decades."

At our subsequent meeting, Landim supplements his technical explanation with satellite images using Google Maps. Blown sand formed highpoints (what we call dunes), and where the base of a dune touches the water table is known as a low point, pot hole, or deflation basin. Abaeté is a river drainage basin that was blocked off by dunes migrating across

the landscape; the result is considered an enclosed wetland. Although deflation basins are known for their sensitivity to land use, according to a state government study carried out by SRH, Abaeté's levels also fluctuate with climate. On the basis of satellite imagery between 1976 and 2002 and of measurements correlating rainfall and lake-water levels between May 2004 and June 2005, the study finds that, except with seasonal rain variation, *no* significant reduction of the lake's level has taken place, despite the intense surrounding development of the last three decades (Governo do Estado da Bahia 2005).¹⁹ *What?*

With this news, I have to reconsider my question regarding what or who is causing problems with the lake. Problems, what problems? We see no problems, say the government's scientists. All of which raise questions of a different order: How is it that scientific data, on the one hand, and the commonsense consensus of users, on the other, seem so logically contradictory? Clearly, one can construct different frameworks for interpreting empirical reality. These are indexed by language shifts (lake as "deflation basin" versus "eye of water") and technologies of knowledge production (satellite photographs and measuring wells versus long-term everyday perception and experience). Landim says that he trusts the data rather than the people's perceptions. If the data are correct, then the Sofitel question is moot. Nevertheless, he is willing to consider the hotel's version of underground water flows.

Landim explains that the crystalline rock formation that the chief of maintenance referred to is part of the barrier (*barreiras*) formation, the main geologic feature that structures coastal water flows. While the barrier formation may be composed of crystalline rock under the Sofitel, it might be clay elsewhere. If it is rock, it is possible that there is a division between the water table and the deeper aquifer such that the hotel's water use does not affect the lake, as Sofitel claims. Studying the logs dating the digging of the wells offers the sure way to answer all the pertinent questions: whether a barrier formation even exists; if it does, its location and composition (rock or clay). Fat chance of seeing the logs! As this is not Landim's research area, he introduces me to Professor (now Dr.) Sérgio Augusto de Moraes Nascimento, a colleague at the institute who had been doing hydrological research on the barrier formation and had taken samples in Stella Maris, not far from Sofitel.

Nascimento explains:

The barrier formation is usually clay, not rock. If it is rock, the rock is not continuous [see Figure 5]. Ninety percent of the material that divides deeper aquifer layers from the sand-filled water table above is clay, which is decomposed crystalline rock. To figure out what is in any particular site, as you sink a pipe you stop and look. If you see that water is coming in with sand, you are in the upper, unconfined water table. If you go deeper, you get water that is mixed with sand and clay soil. While the tube well in Stella Maris extracts

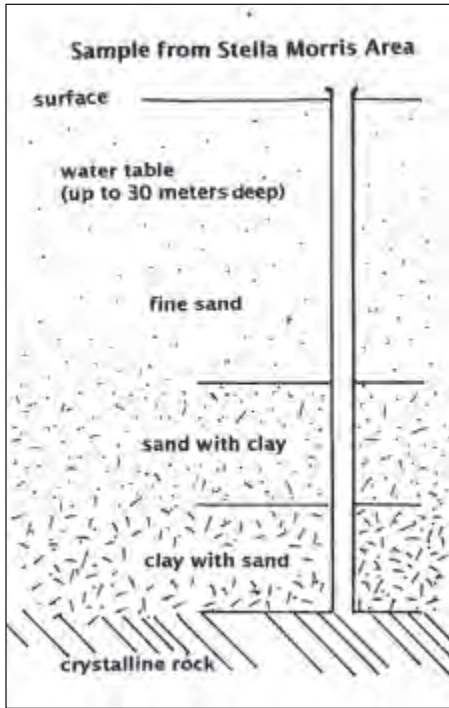


Figure 5. Diagram of a generic core sample of sediment layers in the coastal region northeast of Lagoa de Abaeté (not to scale). Loosely based on Nascimento's data.

water from the deepest sandy region, it is really getting water from all the different layers. *There is almost always a hydraulic connection between top and bottom.* In the uncommon instance that the barrier formation is composed of impermeable rock, there is usually no hydraulic connection.

All things being equal, water from the top of the water table, the fine-sand layer, is of greatest quantity and quality because there are less mineral salts. But water from the sand layer contains biological and chemical contaminants (e.g., fecal coliform bacteria, phosphates from soap, nitrates and ammonia from septic tanks, and gasoline). The Precambrian²⁰ subterranean crystalline rock yields smaller quantities of water, typically having a capacity of two to three thousand cubic meters, which is not the best quality because of high mineral content. Rain recharges the subterranean table.

In sum, Nascimento thinks it unlikely that there is a barrier formation under the Sofitel area, given what he's observed from sampling the area. But in any case, if there is a hydraulic connection between the top and the bottom, and there almost always is, the water is circulating. Thus drawing from the deeper aquifer likely affects the water table above. From his personal experience of Abaeté dating back forty years, he also thinks that the

lake was higher. And because people are consuming as much water as they are, it is unreasonable to believe, despite SRH's favorable research results, that lake levels have not been negatively affected by development.²¹ Not only did Nascimento tell me about Avanzo's definitive work on Abaeté but after the interview he went with me to the library, we located the report, and we photocopied it. He also sent me a copy of the SRH publication Landim had told me about (Governo do Estado da Bahia 2005).²²

Unlike TV detective stories, this one cannot be solved by careful observation of available clues. The water dynamics of Lagoa de Abaeté result from an interaction of surface and subterranean flows and material structures, including ancient riverbeds that run under the lake and into the sea. As Avanzo (1988: 28, 32–34) explains, there is visual discontinuity: Subterranean hills and valleys do not correspond to surface hills and valleys. In other words, geoscientists cannot simply decode what is visible on the surface to interpret what is invisible underground. They must use fairly simple engineering technologies and measurements to extend the visible range. In his prescient and authoritative work, Avanzo (33–34) lays out the necessary kinds of systematic and intense studies of rain and evapotranspiration, seasonal variation controls, aquifer layer pressures, and median percolation velocities. These studies had not been done, “even by the Hotel Quatro Rodas [now Sofitel] as stated in the report by GEC Engineering Ltd.” He writes, “Surface observations or interpretation of photos from the air do not sufficiently define the aquifer layers and their permeability” (32),²³ continuing with more details about the needed studies. Thus, Avanzo suspected that the state government was going to try to pass off oversimplified research (satellite imagery, ratio of lake dimensions to rainfall) as definitive before the research was even a spark in a government scientist's eye!

Iconic Architecture and Everyday Lawbreaking

The question of whether Sofitel's wells were (and are) responsible for sucking the water from under Lagoa de Abaeté attracts attention not because of the singularity of Sofitel's water practices but because the building dominates the dunescape and is thus iconic of local development (see Figure 6 in Chapter 3). Sofitel's chief of engineers puts forth this quite plausible hypothesis. During the interview he says that, if it is problems that I'm looking for, I should talk to the family-owned hotels, which have smaller water systems (or networks, *redes*) unregulated by Accor's international water norms. As my knowledge from interviews and conversations builds, I come to understand that wells, as supplement or substitute to city water hookups, are nearly as common as houses.²⁴ When I ask Antonio how he knows that ordinary homeowners actually dig wells,²⁵ he says advertisements pop up everywhere: “‘Artisanal wells: call number x.’ New homebuyer comes in, sees the sign, and asks, ‘How much is a well?’ The

well-digger says, 'R\$1,000.' The new homeowner says, 'I'll give you 800.' 'Okay, done.'"

This illegal transaction happens every day. Because few people apply for permits from the state water agency, SRH, and monitoring seems remote at best, well digging continues unabated. I get an example of a middle-class-neighborhood perspective from two women, a homeowner and her paying houseguest-friend. The homeowner lives in one of the first gated, beachfront communities in Itapuã to be built, Pedra do Sal (Salt Rock). The builders of the community filled in a lake (Dois-Dois) and leveled a barrier-formation outcrop, using the rock to build house foundations. The development is blessed with abundant freshwater below ground and cooling trade winds above. All you have to do is dig down two and a half meters to hit the sandy water table. There are lots of cisterns and wells in Pedra do Sal, most built without the required permit from SRH. This house, the owner says, has a thousand-cubic-meter reserve tank below ground and another of five thousand cubic meters on the roof. Her houseguest says, "Well, you also have an illegal well." The homeowner denies this and then adds that a friend of hers who works in the town hall gave her a tip, saying that if she makes a hole in the bottom of the underground cistern and installs a pump, it could not technically be called a well. Since there has been no lack of water, she hasn't acted on the tip. In any case, she says, many houses pump from the water table to water their lawns and wash clothes and cars. The bigger the property, the more water is needed for the lawn. Those who have double lots (25,000 square meters with a 1,250-square-meter house on it) and those in cul-de-sacs have a greater need for unlicensed wells. Saving money by not paying EMBASA motivates rich and poor alike.

The upshot of the well situation in Itapuã is that, while Sofitel may point to a dramatic instance of how people perceive and articulate water level problems in Abaeté, if quantitative problems indeed exist, the anthropogenic factors involved distributed themselves across social sectors, classes, and neighborhoods. Simply put, everyone engages in well digging around here. That said, I still want to unravel the contradictions between sense and science that arise in the federal government's legal case against, and the state government's subsequent scientific defense of, Sofitel.

Buried Data and Off-the-Record Truth

I go to a government water agency to speak with its new director, a sympathetic voice in Antonio's quest to save Abaeté. (Antonio believes that the new director will likely make a continuing commitment to fund the Meninos.) Although unsuccessful in my attempt to meet him this day, I discover the water library in the building and meet its new librarian, who asks me, "What's your beach?"²⁶ I have the government-agency Abaeté study in hand with a bibliography that refers to two publications: Avanzo's, a

copy of which I already have thanks to Nascimento, and the government-agency study that refers to the report with the engineering company data that got Sofitel off the hook (Pimentel, Batista, and Freitas 2000). So the government agency published the engineering company report, it cites it in the subsequent study that I hold in hand, and we are in the agency library. Given these three facts, the librarian and I assume that finding a copy should be straightforward. Ha! The report lurks somewhere, we presume, but we cannot locate a copy on the shelves. The librarian makes four or five extended phone calls, but her persistence yields only the fact that of course everyone knows about this important engineering report but alas no one appears able or willing to put his or her hands on a copy for our perusal. The trail becomes more frigid by the minute. But she will not let me leave disappointed. She finds a hydrogeologist knowledgeable about Abaeté to talk to me.²⁷ I leave him, the librarian, and the agency unnamed here because although he stands firmly by the government Abaeté study, his off-the-record insight is most valuable in figuring out the puzzle about the gap between science and sense.

First, referring to the agency study, he says he does not think there is any problem with the lake because an underground river refills it, providing lots of good water. Moreover, the exceptional permeability of the ground renders the water the same above and below surface. You'd have to have ten thousand wells pumping all day to have a problem, he says, throwing out what seems to be an impossible number. In any case, most of the water is used to water gardens and flows back into the soil. The same is true for Sofitel: It extracts water for the golf course, uses it, and returns it. And so, in contrast to Nascimento's careful elaboration of layers of sand, clay, and rock with waters of different quality and the hydrodynamic connection between them, this hydrogeologist finds comfort in the pure abundance of Itapuã's freshwater flows. After tackling my probes and alternative hypotheses one by one and by now probably exasperated (the workday ended long ago), he says, with a sideways chopping hand motion below his waist, "Okay, this is off [the record]: While it is true that the lake is not changing level or shape, except with the changes in climate, I do think that nature is losing [*a natureza está perdendo*]." Ah ha! We have reached a breakthrough in understanding the contradiction between (politicized) science and sense. I present to him a synopsis of my understanding so far, which has now been brought into focus by his openness to his nonscientifically controlled senses and with which he agrees: Perhaps everyone experiences the loss of nature or senses that nature is losing in its confrontation with building construction, pollution, and water use and misuse and verbalizes this by pointing to a diminution in the surface area, level, or form of the lake. Satellite images and a narrow selection of lake measurements show that the variations in the lake's surface area, level, and form vary only with climate, rising and falling according to the amount of rain. And yet decreases in size or depth of the lake may be occurring in ways not yet measured, and the quality of the water that flows through it may be declining.

So the popular concern with the diminishment of the lake expresses itself in an imprecise, simplified, or reductive empirical assessment, but the underlying sense of dangers posed to the lake's existence does not falter here and remains consistent with the scientific data collected so far.

At a general level, then, the phenomenology, how people perceive the lake, indeed aligns with ecological reality even if it seems to contradict the one particular available set of empirical geohydrological readings. Why do this scientist's insight and the negotiated reasoning that carries us across the gap between sense and science have to be off the record? Is the discourse of government scientists so wedded to party lines and the possibility of legal threat of one sort or another that data cannot be interpreted in a larger cultural frame? If data and sense are so discordant, even in the mind of a scientist, should not data-based outcomes lead to more study rather than signaling study's end? Without politics, including a possible threat to this scientist's job security, the discordance cannot be explained.²⁸

In any case, with all this talk of quantity and size, it turns out that the threat, whether experientially perceived or experimentally calculated, may have more to do with the declining *quality* of water in Abaeté, its sources, and its surroundings rather than declining quantity of water.²⁹

This government agency scientist goes on to express a concern about sewage from surrounding favelas and legal housing developments. Septic tanks leak, but the greater problem may be that, to avoid paying EMBASA, people hook up their sewage pipes directly to storm drains (a topic that others have discussed and that I take up again in Chapter 4). Contamination also occurs from other activities, such as bones and mirrors, deposited during ritual sacrifices of animals by Candomblé practitioners, bubbling out of the lake. Further technical data needs to be collected on a series of issues. There is a need to map the water fluxes and evaporation rates, evaluate smell and color, measure total fecal coliform bacteria levels, and measure the extent of deforestation. Finally, the scientist returns to the issue of wells:

What I worry about is not the number of wells but wells made by people who don't know what they're doing. When you build a well, basically what you are doing is creating a road straight down to the aquifer. Well diggers are no more trained than the walking tradespersons who sell cheese or peanuts on the beach. They dig it any old way. They don't know how to construct them properly. The wells are lopsided or have cracks, and so forth. Then they don't work after a while and people throw trash down them, or petrol or soap or paint. It all comes from misery [*miséria*].³⁰

Although well digging is clearly a cross-class phenomenon, and the scientist himself lives in a middle-class neighborhood that is probably rife with illegal wells, he frames his statement with an allusion to poverty. The allusion undercuts the significance of his critique of well digging as a generally destructive practice not limited to the poor.

Water Quality and Bureaucratic Jurisdiction

SRH, the government agency responsible for regulating and monitoring the quantity of water available and verifying which uses are within legal limits (*padrões*), does not include the assessment of water quality as its mission. It gives the permits and makes sure there are no user conflicts between, for example, the interests of mine operators, public water suppliers, infrastructure hookups, and the agrocattle industry. For SRH the question is will resources be sufficient? People who want to start new enterprises have to solicit the SRH for a water permit. The SRH maintains the hydrological balance. For example, let us say an industrialist needs x cubic meters of water per hour. Where will it come from? The question becomes fraught in situations where people depend on rivers that flow intermittently. This is clearly not Salvador's problem, as evidenced by the statements of scientists I interviewed and by its choice as a location for several hydrophilic multinational industries.

I learn all this from the scientists at the Center for Environmental Resources (CRA, Centro Recursos Ambientais), the institution responsible for studying and maintaining the quality of water and for preventing pollution.³¹ Like SRH, it is part of the state General Office of Environment (SEMA, Secretaria de Meio Ambiente). If a home or business wants to use either surface or subterranean waters that are not part of the public system (EMBASA's domain), to build a well, for example, they first must get a permit from SRH and then apply to CRA, which will evaluate aspects other than the quantity of water available before issuing an environmental permit. CRA is available for specific projects related to diverse uses and has been focused on cleaning up the Bay of All Saints as part of the internationally funded Bahia Azul project (see Chapter 4). This obtains only for in-state waterways. Interstate waterways such as the São Francisco, a federal river with a number of contentious dam projects, are under the jurisdiction of the National Agency of Waters (ANA, Agência Nacional de Águas). The Brazilians adopted these administrative divisions of water law from the French (Caponera 2003).

The CRA scientists repeat a common lament, what they call "a culture of not paying" for sewage services. This common practice results in sewage spreading through the rainwater ducts and infecting all public fountains, urban rivers, and coastlines. Because water is so abundant, no one can imagine its absence. This is the central theme that comes out of the larger Abaeté controversy. Water abundance provides a context for the normalization of polluting practices in everyday life. Overall, it seems that law-breaking is acceptable when it comes to water. Water crime is ubiquitous.

Great water bureaucracies have been elaborated to rationalize and control use, but they do not come close to protecting Abaeté or other interconnecting coastal freshwater pools and flows. In our first interview in the agency library, the scientist asks a question that he says he and his colleagues have puzzled over: Why Abaeté? Why does this lake get so much

attention when there are so many other lakes and reservoirs important to the city and state, each with its own set of issues?³² The question leads me to return to the agency to ask the scientist about Abaeté in relation to the other lakes he invoked. This time we talked in his office upstairs. As it turns out, he doesn't know about any other city lakes, but in an obliging attempt to satisfy my interest, he calls two other colleagues over and we move out of his cubbyhole into a hallway replete with a wall of maps. None of them could say anything substantive about the other lakes except that they had all been dammed. Even though they are all too polluted to be used as potable water sources, all engineered water sources are nevertheless in EMBASA's jurisdiction and not SRH's. From this perspective, Abaeté is a bureaucratic anomaly with cultural cachet, a rural remnant in the middle of an urban context.

The administration of environmental law should be guided by solid scientific evidence. It should also be guided by sense, especially where there is not enough scientific data to support firm conclusions. According to the precautionary principle, science that grasps only a thin layer or tiny aspect of ecological reality, even when properly done, is an insufficient basis for allowing destructive practices to continue. SRH's study of Abaeté produced a fact, a correlation of lake perimeter and rainfall levels. Yet as CRA scientists confirmed, no studies have been done on either water quality or the effect of widespread wells on Abaeté or other lakes in Itapuã. Such studies need to be done. Until more comprehensive geohydrological studies such as those Avanzo suggested are carried out, more concerted attempts to curtail building of illegal and improperly built wells and sewage connections are crucial. That said, without a cultural shift in the everyday practice of the human-water relationship, law and the bureaucracies that laws generate are unlikely to fulfill their stated missions.

On the Diminishment of Nature

It is in everyone's short-sighted interest to deny their role in the diminishment of nature. The homeowner with a well in the backyard points to fellow middle-class neighbors with larger backyards; the public educator for the water company points to the big international hotel; the chief of maintenance for the big international hotel points to the smaller family-owned Bahian hotels; the government geologist cleaves off sense from study. And all these people live and work in Bahia. Consider too the circulating and ever-changing population of the tourists on whom the Bahian economy depends. They are drawn to the image of aquatic beauty and abundance but are well protected from knowing about their contribution to ongoing communal tragedies. How can people create an allegiance to the water sources they hold in common in this globalized context (see McCay and Acheson 1996: 24)?

Closer to home, Antonio and the Meninos de Abaeté strive to answer this question even as they strive to make others ask it. Surely the lake,

hemmed in as it is by human desire, calculation, and disregard, nevertheless continues to animate those who cool their bodies and wits in its mystical waters. Caetano Veloso's song "It's a Long Way," a Bahian-Beatles lyrical mix that merges Dorival Caymmi with Vinicius de Moraes, evokes the dark waters and white sands of Abaeté.³³

*Even if I don't have love, if I don't have this pain
If I don't have suffering, and if I don't shed tears
Even if I don't have love
In Abaeté there is a dark lake
Surrounded by white sands*

The question is can Abaeté survive the predations that accompany our imaginations?

3

Dune Shenanigans and Rebellious Festival Memories

Contemporary Co-optations of Bahian Folk History and Landscape

The rolling topography of the Atlantic dunes allows for unusual ways of traversing the earth's surface. Climbers of windy peaks access far-sighted coastal views, explorers of valleys encounter acoustic splendor in hidden forests and springs, long-distance walkers discover scenes that lend themselves to solitude. Sites within Itapuã's dunes, through history and culture, have acquired special significance redolent of danger, opportunity, and rebellion. As with icons and oral traditions, generations transmit the idea of these sites from one to another. In the process, the idea sites and associated ritual practices remain partially obscure and partially reinvented. But even inventions can mobilize a sense of an authentic past for mass-mediated consumption.

Topographic staging grounds appear among the most stable narrative elements in reinvented and simulated traditions. Fragmented by condominium construction and mass marketers, landscapes of leisure attract residents and consumers by usurping local meaning. Still, "wisdom sits in places," and through language and oral history, places like Abaeté convey a "density of meaning" that proclaims their presence despite the layering of chaotic contemporary development (Basso 1996: 28).¹ In Jean Baudrillard's (1983: 2) postmodern terms, models "of a real without origin or reality" simulate traditions that never actually existed in the past; yet topographic meaning sites like Abaeté that existed in the past may continue to ground and orient collective folk enterprises even in such "hyperreal" versions.² To evoke the vitality of

past waterscapes in the confabulations of the present, I recount shenanigans on the dunes involving police theatrics, the festival cycle leading up to a whale procession, and in counterpoint, the quiet memories of an octogenarian laundress who prefers the sound of water and birdsong to the boisterousness along Abaeté's shores. Like reality-based fables that include personified animals, these short stories convey useful lessons about the changing function and meaning of natural places in the context of urbanization and global spectacle. The first section explores the way the state orchestrates violence in its performance of power, using the military police to foment place-based meanings of disorder and social control (compare Broch-Due 2005: 15).

Lookout Hill (Morro do Vigia)

Just as there is a pollution of nature, there is a pollution of the real size of nature. . . . What is true of space that is diminished and reduced to nothing is true of memory.

—PAUL VIRILIO, *Politics of the Very Worst*

Rolling like huge, slow-motion waves, the dunes rise and fall in the interaction of sand, rock, wind, sea, rain, and rivers. They form a liminal zone, attuned to all the concatenations that nature and culture can cook up. In nature this ecoregion, the *restinga* habitat, is harsh and inhospitable, hosting only the toughest, most finely attuned and adapted plants and animals. In culture Itapuã's dunes are the Wild West territory of rebels and thieves in fact and fiction, crossed in peril by the reckless, desperate, brave, well armed, inebriated, or simply poorly informed. The highest peak in Itapuã, called Lookout Hill, offers climbers its most majestic coastal view, one that links the freshwaters of Abaeté with the saltwaters of the sea. Like the Mermaid, whose sculpture links town and beach, Lookout Hill is a key symbol and geographic reference point.

During slavery, Lookout Hill became a *quilombo*, a fugitive redoubt. In 1814 the quilombo staged a rebellion in Itapuã. I gleaned the following brief historical synopsis from the history of quilombo revolts by João José Reis (1995–1996: 16, 21–22, 24, 28, 31–34). Fugitive slaves established settlements called quilombos or *mocambos* throughout the New World. Although escaped slaves and their descendants predominated, other types of renegades converged to swell the ranks (for example, military deserters, those fleeing secular and religious justice, adventurers, and Indians). The Africans came from different ethnic groups, yet managed their differences and re-created cultures. Palmares, the largest seventeenth-century Brazilian quilombo, formed a confederation of groups with a population that grew to somewhere between fifteen thousand and thirty thousand and that descended mostly from the region of Congo-Angola in south-central Africa. The term *quilombo* derives from *kilombo*, an African institution

that initiated young warriors into invading forces of mixed ethnicities disconnected from their communities. The term was reinvented in Brazil to refer specifically to fugitive slave redoubts. In Bahia most of the slaves were Jejes, Haussas, and Nagos, who originated in the gulf region of Benin and were in turn composed of various Yoruba subgroups. The quilombos were hidden but not isolated. A great deal of trade and communication occurred between slaves, free Negroes, and even whites who contributed to their survival. The colonizers and imperial powers behaved brutally toward whoever was caught, and they systematically destroyed the food and cotton grown by the people of the quilombo. For example, colonial forces, possibly including Indians, destroyed Armadillo Hole (Buraco do Tatu), a mocambo near Itapuã in 1763. At the same time, the rebellious gave those in power good reason to rest uneasily, fearful of assault, robbery, or worse.

In 1814 slaves spoke openly in the streets about successful slave revolts in the Caribbean and particularly of the revolt in Haiti, which ended in 1804. But slavery would not officially end in Brazil until 1851. Of the twenty-five Bahian revolts and conspiracies in the first half of the nineteenth century, eight were scheduled for the Summer Festival Cycle, a predecessor of contemporary festivities leading up to Carnaval (December to February).

In February 1814 the people descended from Lookout Hill to unite in revolt with fisher slaves employed in the fish warehouses near Itapuã (*Itapoã* in source). It is possible that the leaders of the 1814 rebellion were involved in the brotherhoods that organized festival events into dance groups affiliated with nation of origin. Festival activities might have thereby provided a cover for rebellion. Five slave women were accused of revolt in 1814: Ludovina, Teresa, Felicidade, Germana, and Ana. The free-woman Francisca, who proclaimed the rebellion as she traveled with her companion Francisco through the Recôncavo (Bahia's agricultural region), was condemned to the lash and deported to Angola.

This summary is a collation of historical facts at the academic edge of mass mediation.³ It points to the nexus of oppression, crime, rebellion, and festival calendars immanent in Bahian popular imagination and fore-shadows current events. While the quilombo may be considered a hidden place of retreat where ex-slaves escaped violence and capture, it was also presumably a place slaveholders avoided unless accompanied by armed forces for fear that they might be subject to violence and capture. In this sense, the dunescape is divided into two seats of power, one dominating the town and the other dominating the peak. Once a place is a quilombo, in spirit and memory, it persists as a quilombo.⁴

TV, Nature, and Police Poseurs

Memory has a texture which is both social and historic: it exists in the world rather than in people's heads, finding its basis in conversations, cultural forms, personal relations, the structure and

appearance of places and, most fundamentally for this argument, in relation to ideologies which work to establish a consensus view of both the past and the forms of personal experience which are significant and memorable.

—MICHAEL BOMMES AND PATRICK WRIGHT, “‘Charms of Residence’: The Public and the Past”

Late on the morning of January 8, as Antonio and I finish up our first full-length interview at the lake, a TV production crew arrives with four armed military policemen. They want to create a spot for SBT-TV-Aratu that will communicate the beauty of nature in Abaeté, I’m told by Antonio, who acts as their guide. He invites me along.⁵ We pass three women as we walk past the lake and over the first row of dunes. Antonio warns them of the possible dangers lurking in the area, including assault. Our group starts out cheerfully enough but grows weary as the sun beats down as we trudge across the sands, occasionally stopping for Russo the cameraman to film Antonio talking about the various desert plants and animals.⁶ In a low area about two-thirds of the way along the trek to Lookout Hill, as if on cue, one of the policemen retrieves a woman’s worn pocketbook from the bush, empty, open, and forlorn. The young woman reporter, Louise Calegari, unprepared for the intense heat and by now out of sorts, looks at it and says, “What an ugly bag. It’s not even leather. They robbed a poor person.” Shaking his head, a soldier responds, “The poor robbing from the poor.”

We climb up Lookout Hill to the old quilombo site and see a spectacular swath of coastline (from Lauro de Freitas in the north to Barra in the city). From here, the ex-slaves kept watch for ships and whales. They hunted and processed whales, trading or selling the oil to those constructing the walls of colonial Pelourinho, the downtown neighborhood overlooking the port, named for its whipping post. From the center of the slave trade to a marginalized prostitution zone and then to a revitalized and heavily policed tourist neighborhood in Salvador’s arty upper city, Pelourinho now contends for recognition as a UNESCO World Heritage site. Commodified heritage attracts and excludes, and for those with historical memory, the gaily painted buildings and squares coexist in dynamic tension with quilombos dispersed throughout Bahia, including Lookout Hill.⁷

Violent slave history, warrior rebellions, and the power of African spirits collide on Lookout Hill, one of two designated sacred sites in the sphere of Abaeté. With unmistakable awe and curiosity, one of our armed guards takes me aside to point out a large ceramic platter on the edge of the path at a high point near the bushes. The platter sits empty beside and on top of plastic bags in which the vanished supplicant transported her ritual offerings. As he and I look at other offering plates on the last and somewhat higher hill just around the bend, the sound of shots coming from the valley through which we had just walked startle us. Hands on their guns, one with his gun out of the holster, two policemen run to the edge that overlooks the valley. They face an upscale housing development, Alamedas



Figure 6. Police poseurs on Lookout Hill. This photo is almost identical to a photo that appeared in the *Correio Repórter* two weeks after this one was taken.

da Praia, encroaching on the dunes from the northeast. Rooftops hunch in the trees below the Sofitel, the hotel's rectilinear bulk pushing aside both sea and sky.

"Banditos!" shout the police. I point my camera and shoot (see Figure 6). The photo offers an ambiguous clue to the duplicitous workings of the state. A few days later, I learn that this housing development at the edge of bandito dune valley, according to rumor, is the Bahia governor's big scam. The governor obtained a map of the dune area that was slated to become a park (see Chapter 2) and bought a big chunk inside the projected area under the name of an associate who owned the construction firm that then built and sold 250 houses.⁸ Banditos, exclaim the people. Yes, the poor steal from the poor, but the rich steal more and with more finesse.

From the top of Lookout Hill we walk down into a piece of forest with a spring pooling feebly at its base. Before the construction of the city's potable water infrastructure in the 1970s, Barrier Lake (*Lagoa da Barragem*) provided Itapuã with its largest source of drinking water, the plentiful collection site of Antonio's father, the aguadero. Tucked carefully here and there in the soft shade are ceramic offering platters left for Afro-Brazilian deities. The sounds of birds and a band of monkeys (*macaco mico*; genus *Cebus*) accompany us in the remnant niche. As we walk up and out into the hot sun again, we pass empty offering bowls made of woven palm. More

unnerving, we espy an artifact on an open patch of well-trodden sand with low green ground cover and dead grass. In a mummy's shape, the artifact's unknown contents have been wrapped tightly in white cloth and bound, around and around and around, with crisscrossing white strings. Leaving this brief encounter with the uncanny behind, our team becomes happy and talkative once again as we reach our final destination above Abaeté's lakeshore, exchange e-mail addresses and bid pleasant good-byes.

On January 21 the *Correio Repórter* ran a special Sunday supplement, "The Enchanted Lake," on Abaeté. Reporter Adriana Jacob (2007: 7) and her camera team repeated the same journey across the dunes that I and the TV-Aratu crew had taken, only her group went with six men, including not only members of the Fifteenth Independent Company of Military Police (as did ours) but also men from the Special Police Commando Patrol for the Capital (RONDESP, Operação Rondas Especiais do Comando de Policiamento da Capital). The part of the article that refers to the dune walk adds commentary on history, banditry, festivals, and religion and includes a reference to the 1814 rebellion under the banner headline "Dangerous Trail: Lookout Hill, Stage of 19th-Century Slave Rebellion, Turns into Muggers Point [*Point de Assaltantes*] in Itapuã."

To my astonishment, the large photo below the banner is nearly an exact replica of the photo I took the day I went with Antonio, the TV team, and four military police. The newspaper photo caption says, "Police had to leave in pursuit of a bandit who tried to assault the reporting team." Only the positions of arms and legs of the police poseurs vary between the newspaper's photo and mine; from the back, it appears that the same two policemen are in both pictures. These parallels cannot be coincidences. Surely our little posse was visible en route. The timing is too precise: Twice the banditos' shots ring out from the dune valley just as the teams of media and military police get their bearings on Lookout Hill? I must admit that the actors performed well, the director did a credible job, and the performance in fact warranted applause; bamboozling the media, or at least voyeurs of the media, requires some talent, which both bandits and lawmen displayed in that surreal setting.⁹

In effect, if not intention, their performance instills a cognitive map designating the dunescape between housing development and Abaeté as a no-go area, a no-man's-land for all but men bearing arms and those protected by them. Among the layers of illusion at work in this conjuncture of media technology and policing, the camera functions simultaneously to reify nature and social control. The dunescape, thus converted into a mediascape, consumes and conserves nature, produces and condemns banditry. The combination holds ecological order subservient to the social disorder of policing. All this recalls a Foucauldian disciplinary apparatus, in which the liminal landscape cleverly reorders the material lives of inhabitants as effectively as schools or prisons (Foucault 1980).

Agents of the state (and real estate) appropriate the powerful spiritual and historical meaning of Lookout Hill, particularly the quilombo's association with African diasporas, rebellions, and autonomy. Of course, the staging of the photograph does not diminish the possibility that bandits assault unwary dune walkers. I am sure they do, just as they do on the beach. The media production teams conceivably would have been sitting ducks without the armed police. The importance of this little discovery of photographic duplicity, however, is that it illuminates the way the real and fabricated are purposely blurred to simultaneously create desire for nature and fear of crime. The police did not necessarily fabricate bandits; they used the media to fabricate the territory of the dunes as a twenty-four-hour banditry zone in the mass-mediated social imagination. Real bandits are excluded from the visible material image.¹⁰

I can only surmise who benefits from these dune shenanigans, and I realize that this is a relatively small and even comical arena to consider the performance of state power but no less significant for that. For one thing, the military police have a side as brutal as the bandits. When it comes to brutality and small-scale warfare, social facts can travel as well as rumor through community networks, and official reports can evade. For example, a child relates to me that one of the favelas on the outskirts of Abaeté, Baixa da Soronha, is full of narco-traffickers and bank robbers. Their chief, Leno Zero, known as Jagunço, had recently been executed by the police in São Caetano. A man, the child says, pretending to be his colleague took Zero to the place where they killed him. The official account reports simply that the man died in confrontation with the police.¹¹ The two versions of Zero's demise encode interpretive ambiguities within and between them. The community version identifies deception as a police procedure (we cannot help but imagine how this criminal mastermind was duped into mistaking foe for friend), whereas the police version elides all specifics. While I suspect that the community version has a good chance of being close to what actually happened, the more evasive official account is what stands. The official account, hollowed out of cues to Zero's demise, stands as "history" not because people give credence to its unproblematic representations of veracity but because people caught in the cross fire do not feel safe challenging either warring party.¹²

Of course, I may be reading too much into the police's dune performance. Perhaps an ineffective military police force wanting to boost its image lay at the crux of their attempt at a staged PR stunt. They apparently do an especially poor job of protecting the dunes despite a force of twenty-two assigned to secure it. For example, laughing locals report that banditos lugged a stolen couch from a house in Alamedas da Praia over a kilometer, clear across the dunes to a favela on the other side of Abaeté!¹³ And one day, while I interview Gloria at her barraca, a walking tradesman approaches to offer a bucket stuffed with gorgeous orchids in bloom. We decline to buy, he leaves, and she turns to me and says that they are most

certainly stolen from Abaeté. Surely he would have been seen at some point in the illegal acts of collection and sale. The police do not impress the locals; the locals fear rather than admire the police, so one must suppose that all that business atop the dunes targeted a mass-mediated audience. In any event, everyone around here knows that even if they go beyond the public safety zone, community people from Itapuã seldom risk assault, for the bandits have eyes out for tourists (defined as foreigners and Brazilians from the south). So if the staged photos are PR, Bahian locals are unlikely to be impressed. Their images of banditos are much more ethnographic, their mass-mediated consumption tempered by everyday knowledge gained by participant observation. Honor among thieves has credence, after all, as well as does coerced complicity between thieves and the local population. Local knowledge of differential victimhood contradicts the TV reporter's and policeman's reaction to the found pocketbook ("poor stealing from the poor"). And the newspaper supplement, though comprehensive and informative, fails to reflect (even a little) critically or in a more nuanced way about the larger structures of violence associated with either dune banditry (a place-specific variant of street crime) or the destructiveness of the very nature-appropriating development that their TV spot and newspaper supplement purport to encourage. The police's mass-mediated dune shenanigans thus contribute to the hypervisibility of street crime, simultaneously erasing the everyday environmental crimes that diminish natural coastal habitats.¹⁴

The next performance of dubious distinction allows, nay encourages, nocturnal violence against lake and dune ecology. In contrast to most discussions of carnivalesque crimes enacted by marginalized social groups, this one implicates the elites, their sons, and power brokers. Drawing from her interview with Antonio for the special Abaeté section of the newspaper, Adriana Jacob (2007: 7) mentions the destruction wrought by off-road vehicles on dune plants and animals (e.g., the owls that make their nests in the sand), but she doesn't mention perpetrators or the accompanying police farce that Antonio related to me:¹⁵ For kicks, the rich and the sons and lawyers of the rich drive into and over the dunes at night in SUVs while drinking whiskey in parties of twenty to fifty people. One night Antonio got photos of three men, one each in a Cherokee Blazer, a Nissan, and a third car. He took the photos to the Public Ministry (MP) and denounced them. As a result, money to fund the capture of the carousing elites began to flow to the Brazilian Institute of Environment and Natural Resources (IBAMA, Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis) and to federal and state police. They called it Operation Owl (*Operação Coruja*). Antonio suggested when and where the police should hide in wait for the illegal vehicles to arrive so as to optimize the chance of capturing those involved. Rather than following his advice, the police hung out at the park entry with their lights on, making it unlikely that any arrests would be made. (The police might argue that the idea was not to make arrests but to put an end to undesirable behavior.)

In this undulating world where the powerful plot and the policemen pose, where twenty-first-century partiers in SUVs replace the twentieth-century romantic musicians in the nude, carefully researching and detailing the causes of violence and the perpetrators of that violence would likely get you killed; denouncing such perpetrators presents an even greater hazard. Verifiable photographic fabrication and plausible “anecdotes,” confirmable in kind if not always in detail, expand the ethnographic frame of inquiry and deepen the complicated layers of implication.

Bodies, Landscapes, and Carnaval Memories

On the Other Side of Salvador, Looking out onto the Bay of All Saints

On the ceiling of an inner room in the Church of Good End (*Igreja do Bonfim*), near the Lookout of Good End, hangs a magnificent chandelier of gold with clear and ruby red crystal pendants (see Figure 7). A bank of ceiling moldings, set in successive rows from wall to center, holds neatly placed silver hooks from which dangle colored ribbons printed with “memories from the Good End of Bahia.” Plastic replicas of body parts dangle from the ribbons: legs on the outermost rim, arms on the next, heads, then feet, and on the innermost, pairs of upside-down supplicating hands. Some of the plastic body parts bear packing labels with hand-printed lettering and symbols; others are tied with an extra ribbon. One bright yellow foot stands out, and one can discern a brown set of feet among the crenulated mass of cream and crayon-colored flesh. It seems odd that in this region of predominantly black people, white body parts predominate in this ceiling. Collections also run along the upper walls: military-style caps and wood-sculpted pieces of an upside-down hand, right-side-up heart, legs, crutches, and a protruding painted head. The room’s ceiling and upper walls approximate a museum-like installation of surreal art. Thousands of photographs and drawings, collected and arranged according to size and disposition, cover the walls from midmolding to floor: framed portraits on one wall, hundreds of passport-size photos aligned in a corner mosaic, and a wall of personal photos in meaningful places, many with water as a symbolic element, for example, a mother giving a baby a bath in a plastic tub on a bed, a man in bathing trunks on the beach with fishing boats bobbing in the background, and a house with a little pool. One young woman stands on a small Persian-style rug, in front of a painted backdrop with waterfalls streaming across giant boulders into a lake of blue rays. The iconography is accompanied by texts, pasted prayers, and framed poems of thanks. United by the room, the symbolic significance of the stories merges to signal a grand transformation from illness, misfortune, and near death to recovery and well-being. The photographic images of people of color again contrast with the plastic body parts suspended above them. Yet the feeling-tone of the many water images carry over into the outer hallways with their



Figure 7. Ceiling, Church of Good End.

Portuguese tile murals (*azulejos*), the blue lines on white background figuring the life of Jesus, his baby and man fingers reaching to touch bowls of water or washing feet, baptismal rites. Fountains within and without the church, though turned off, also emphasize the symbolic role of water.

I surmise that the inner room of suspended animation holds the hope of its believers to nurture, magnify, and share their healing with all believers (and others) who enter. The hope moves out into the city and the world through the printed ribbons. All who visit Bonfim or Pelourinho have an opportunity to purchase the ribbons on the streets from sometimes quite pesky venders, their arms waving with swaths of hanging colors, proffering one or two for your wrist. As traveling icons from Bonfim, the embodied ribbons radiate protective site-based messages.¹⁶

The ribbons' distributed power does not come solely from the symbolic power emanating from this and other visited church rooms. Indeed, the ribbons index the great opening event in Bahia's Summer Festival Cycle: the Washing (*a Lavagem*). In this mode of popular spectacle, the people of the city and their visitors animate doubled memories of the Afro-Brazilian deity of waters, Oxalá, and the patron saint who provided Oxalá's cover under slavery, Our Lord of the Good End (*Nosso Senhor do Bonfim*). The Catholic cult of Bonfim originated in seventeenth-century Portugal, the image found its way to Bahia in 1745, the church awaited construction until 1754, and the first official lavagem was performed in 1804 (Bonfim

2000). In present-day Salvador, every third Thursday of January a procession of many thousands moves to drummers' beats along the edge of the seascape from a church in the oldest part of the lower city, past the container port, to the top of Sacred Hill in front of the Church of Good End. The topography of memory persists.

The waterscape procession enacts memories of forced labor and secret devotion in a festival cycle whose very order allowed the coordinated uprisings of ancestors that eventually led to freedom. Thus slavery and festival combine to set the stage for contemporary racial politics. Bahian women in traditional lace-trimmed white skirts, blouses, headscarves, necklaces, and bracelets inhabit the center of the action. The Bahianas perform the ritual washing of church steps with perfumed waters from the pitchers carried on their heads or shoulders as Bahia's governor, senator, and ministers and Salvador's mayor watch, with the press close by, separated from the multitudes that overflow the plaza. Even the opposition wants to be seen in the ritual moment, as did Luiz Inácio Lula, the up-and-coming honorary president of the Workers' Party, on January 12, 2000, twenty years after his jailing and that of other union leaders by the military dictatorship for leading a strike in the area of São Paulo (Bonfim 2000). Lula began serving his first term as president of Brazil two years after his appearance at the lavagem.

A Lavagem Procession in Itapuã

By daybreak, wall-to-wall barracas line the main street and stretch all along the beach. Preparations for the opening of the Carnaval cycle lasted through the night. A four-tank, chrome beer dispenser on wheels and a large stage were readied for the night's big street party. Before that, however, the bright blue church in the plaza, Our Lady of Conception (*Nossa Senhora de Conceição*), will have its steps washed by Itapuã's Bahianas. This year the procession falls on February 8, two Thursdays after Bonfim's. Antonio, though neither Catholic nor devotee of Candomblé, contributes to the popular religious event as an active community member, and I tag along with the Meninos. At 5 A.M. he helped serve the Bahianas coffee and fresh bread (*café da manhã*) and then came running up the hill from the church plaza to Abaeté about 8 A.M., where Jason and I and two Meninos have been waiting, watching vultures gather after a rain shower. We walk back down to meet the rest of the boys and girls gathering in the plaza. Jason wanders with his face glued to the video camera as I enjoy the children's company and the practicing groups of drummers and dancers. Antonio runs around organizing things, every once in a while stopping in the square to touch base with us. The participants gather brooms, buckets of water and flowers, plastic water bottles, pitchers, and musical instruments, and then everyone walks, except for those riding a phalanx of gaily decorated horses, about a kilometer and a half to the procession starting point, Placaford, the site of a now defunct business. The business's sign

too has been gone a long time; only the memory remains. We follow the procession. Historically, one entered Itapuã via an arduous journey along the beach; the coconut grove at Placafor provided a resting spot for horses long before cars and asphalt roads lined the seascape. But before leaving town, our little group waits for a supply of water bottles in front of a restaurant-shop complex that will function as a safe haven for paying party customers. When we get to the intersection of Dorival Caymmi, the main commercial street, I find *Sereia*, the mermaid sculpture, boxed in between civil and military police posts. Electrical wire has been wrapped around the upheld arm that holds her mirror. What scenes of law and order will this festival cycle reflect in her mirror?

As we gather in the coconut grove, the processional elements of Bonfim reappear amid the growing crowd. Bahianas and their support crews ready the props. Billowing white skirts and blouses with blue and silvery triangular accents and creative white headpieces of splendid shapes set off complexions in shades of brown. Someone gives the signal and we all move out in unison to the mixed beat of drums and the clip-clop of horses' hooves. As with similar festivals everywhere, they forbid all vehicles except parade support vehicles. Transsexuals, transvestites, and gay men in costume declare their presence, their fun marred by a hate-crime murder, reported in the city newspaper the next day. As Antonio circles the crowd, I walk with the Meninos behind a group of singing Bahianas. The children take turns carrying a banner, reading, "Child Sexual Tourism Is a Crime." In conversation I learn that the older ones are more excited about the evening's approaching street party than about the banner's message or the parade.

When we get to the church, I, like most participants, am too far from the steps to see the ritual washing, but I can smell the perfume sprayed in the air before and after the key symbolic rite. I squeeze closer to the source of African sound and enter the outer ring of a cluster of drummers, Bahianas, and other singers. Fireworks, which have filled the air throughout the procession stage, explode in counterpoint; then the grand finale and the sky crackles, signaling a shift in tradition. The church steps hosting Candomblé-inspired rhythms give way to secular electric bands, *trios elétricos*, onstage, who will inspire an even greater mass of Bahians and tourists to engage in over-the-top partying. By February 16, the Carnival seekers and working families (including Meninos assisting their parents in selling food and drinks) will move to the main downtown circuits.

At Carnival's close on February 21, Itapuã draws the revelers back again but not before the newspapers and TV station headline particular cases of shocking, though not altogether unexpected, violence. I watch the spectacle from the safety of my living room (the scene was once on YouTube but is now removed). Three shots—tat-tat-tat—sound through the videotaped din, two youngsters fall, and the dancing crowd pulls back in terror along the main Barra-Ondina circuit downtown. One youngster wears the bright green and yellow outfit of the national flag, the colors clashing grimly with the maroon of pooling blood.¹⁷ And a nine-year-old

girl, after a hard day of work selling beverages to the crowd, is shot when traveling home with her mother on a bus at 1:00 A.M. (Lasserre 2007). Most tourists and Bahians of means pay hefty fees to well-known bands that enable them to party in protected buildings or stages (*camarotes*) or within roped-in areas around the festooned trucks that have bands and dancers performing on platforms high above the street; the whole scene, roped-in revelers and truck, moves slowly along the street circuit. Paying participants wear specific costumes bearing daily changes in security symbols. Revelers also receive food and drinks, have access to restrooms, and most importantly, are protected by private teams that number in the thousands. Everyone else is part of the “popcorn” (*pipoca*), the crowds jumping up and down to the music. Armed and uniformed squads of military police snake through the streets in lines, arriving as often as not, as in the case of the young boy, well after the shots have found their mark and the shooter melted into the crowd.

Racism and Festival Cycle in Salvador

The historical and institutionalized foundations and metaphors of race, religion, and violent crime take on specific festival form. In particular, the origin of Brazilian Catholicism as a monotheistic, white Portuguese belief system coexists in tension with Candomblé (and Umbanda) as an African belief system of multiple deities (*orixás*). Elements from Brazil’s original peoples are incorporated as well. Bahia’s cycle of festivals is a syncretic mixture, yes, but syncretism does not dissolve the living history of racial oppression and resistance.¹⁸ This chapter briefly examines certain clues to the embedded character of this uniquely Afro-Brazilian tension. For example, the whiteness of the suspended body parts in the inner sanctum of the Church of Good End contrasts with the black bodies of the believers’ photographs below them, whose images flow into the whiteness of the hallway murals of biblical scenes. Although to me this inner sanctum seems quite surreal, the artistry of its arrangement nevertheless suggests the strange comfort of religious orderliness. In contrast, the bleached-out mummy-like bound artifact that the TV-Aratu production team came across in the dunes above Abaeté’s shoreline seems to emanate uncanny feelings of a different order, bad magic hidden and uncontrolled even in the full light of day. The mummy-like artifact threatens a shadow world in counterpoint to the lovely shaped, ceramic offering platters, presumably good magic, at the top of Lookout Hill and beside the spring below it. In any case, Russo the cameraman does not film either good- or bad-magic artifacts for the nature video on the dunes.

A persistent and irreconcilable core tension appears to inhabit and cross the two worlds, spirit world and racist world. While the church spectacularly celebrates Afro-Brazilian traditions in events such as the lavagem at the Church of Good End, today’s washing of Bonfim’s *steps* historically entailed the washing of *all the floors*, inside and out, until the 1950s, when

church authorities excluded the Bahianas, limiting the lavagem to the forecourt (Verger 1990). Someone still washes the inside floors beneath the suspended white body parts, but exclusion now diminishes the collective semiotic power of slave labor.

Evangelicals seem above all to want to remove themselves altogether from this fraught contest between Catholicism and Candomblé. I first encountered Evangelical aversion to Afro-Brazilian religious festival on February 2. I had bought two or three bunches of white flowers as a gift to take to what I thought would be a traditional Yemanjá ritual in a designated Candomblé site (*terreiro*), but the plans fell through. My friend who had arranged our entry did not realize that the people of the *terreiro* would be at the riverfront with thousands of others on this day. So I thought, “Why not take the flowers to Gloria at the barraca at the beach near my house?” On the way, a couple of guys on the street asked, “Hey, are those flowers for Yemanjá?” and I thought, “Not really, or kind of.” But to be friendly, I said, “Sure.” But a few minutes later, when I handed the flowers to Gloria, she paused before touching them to ask, “These aren’t for Yemanjá, are they?” And—backpedaling, as I am not a believer, not lying but presenting a different version of my role as participant-observer—I said, “No, they’re just flowers that I bought at the supermarket.” She said, “Good, thank you; I needed to make sure.” Then, during the February 8 lavagem of Itapuã, two Evangelical boys among the Meninos de Abaeté wanted to make sure I understood that they wished no involvement with Candomblé and were participating solely for secular reasons. I interpreted their comments in light of Gloria’s previous reaction. Two things are clear from these exchanges: One, in contrast to Catholics who want to encompass those who practice Candomblé, Evangelicals want to keep their distance; two, because of the strength of Evangelical fear of contamination from Candomblé artifacts and practices, I cannot rule out that they may attribute certain contagious magical powers to them.¹⁹

The patterns of race and religious identity in Bahia are both vehicles and obstacles to unifying efforts to stop destructive ecological habits. For this reason, Antonio, though he always makes clear that he is an Evangelical, always makes an effort to speak across fear and division, reaching out to people of all races and religious persuasions. I regret that we never discussed this issue in a general way.

Carnaval of the Whale, Itapuã

On February 21, Ash Wednesday, evening of the last day of Carnaval, Jason and I head up toward Lagoa de Abaeté, near the headquarters of Malê Debalê, the organizers of the whale procession (*Carnaval da Baleia*).²⁰ In 1979 the organization’s founders began a dance troupe to represent the people of Itapuã in the citywide Carnaval. The group takes its name from the *malês*, a network of black slaves and freed persons who conspired and carried out the 1835 uprising.²¹ The second word, *debalê*,

was chosen because it rhymed. Although historically malês identified with rebellious Africans of the Muslim faith, the Malê Debalê representatives I speak with determined to distance themselves from the religious aspect of this association and lean toward the political aspect. Inspired by black identity politics, in addition to staging a traditional Carnaval troupe in the downtown circuits and the whale procession in Itapuã, the organization evolved into an educational mission that runs a school, a library, and computer training courses.

On the procession day, walking on the road adjacent to the lake, we arrive at the appointed hour at the compound housing the Malê Debalê; we arrive too early and have to return three hours later. When we return, a few minutes before the hour, we find a small crowd of parents and children around a giant papier-mâché sculpture of a blue whale mounted on a metal boat trailer. The small gathering warms up with the Malê Debalê drum corps. The trailer has been disguised with a surface of blue waves decorated with images of cowry shells, fishes, and stars. White plastic streamers hang and sway from the whale in big hoops, along ridges, and from its high tail. White beads on half a dozen sticks encircle the front head, and a pitcher of flowers is on the top. (The pitcher used to have a perfume-spraying pump in it.) Signs in front and back of the whale's body say, "The Sea Crowd, Cultural Troupe of Itapuã" (*Galera do Mar, o Bloco Cultural de Itapuã*). The drum corps' beat picks up, signaling the procession's start downhill. As they pull the whale behind them, the two men holding the trailer's front bars coordinate their bobs and weaves to mime wave action. When we approach the hillcrest, the whale crowd can see through a line of trees our destination, the blue sea beyond.

When we reach the bottom, where Cira sells her acarajé and Posto 12 its beer, we make a right along the beach road toward the Mermaid. The crowd grows, filling the streets and engulfing car and bus traffic as we pass the plaza in front of the church, and stops at the big stage where the electric bands performed on the opening night of the lavagem procession. Here the speeches begin, not about real whales and their problems, but on the importance of Malê Debalê, how the whale procession started twenty years ago, and what Itapuã needs today; even Antonio gets a plug in for the Meninos de Abaeté. By the time the procession moves on and reaches the ramp beside the fisher's colony near the Mermaid, the sun has set. A team of men lifts the whale off its trailer and into the arms of another team who run back down the beach, with the whale in arms, in the direction from which we came; the crowd scurries along beside them. The men put the whale into the crashing waves and, with accompanying swimmers, pull the whale with ropes out to three fishermen waiting and watching in deeper waters; the white streamers tied to its tail make it easy to see in the darkening distance. The fishermen tie the whale to the back of their boat. As they tug it out to sea, the whale's bobbing and weaving is caused by real wave action now, not men miming waves. The intense rose and mauve of the sunset reflect off shimmering waters, as the persistent drumbeat,

soft now, marks time, and the dwindling crowd watches the manufactured creature's return to nature. The fishermen, who almost never reap an abundant catch, mediate this inverted, yearning relationship between humans and the maritime universe.

Inventions and Corrections

I admit it. I was excited about this procession in particular because it apparently links the freshwater of the lake to the saltwater of the sea. Here's my opportunity, I thought, to link port city geography to symbolic processes encoded in festival folklore. Only, up until the day of the whale procession, I couldn't get anyone to explain what the whale had to do with freshwater. What business does a whale have up at the lake? Stretching, I figured maybe this has something to do with the rites of fishers from times of old. Still puzzling two days after the procession, Carnaval season finally behind us, I wander down to the beach to speak with Chico, the fisherman and beach-shack owner who first told me about it, when Antonio came by. (He had stopped at the condo, and folks there told him I had just gone.) We walked over to sit on the big rock (an outcrop of the barrier formation) in front of Gloria and Chico's barraca. This rock, named Pedra da Gudia, is one of the two most important rocks on the beach, a place to meet, hang out, smoke, have sex, or carry out ethnographic interviews.²²

Antonio gave me the background on the whale procession. He said that Alí Salomon, a musician, and a Mr. Dão, a spearer of whales, created the event to remember whaling history and its association of the rebellious year of 1814, when (and this historical reference adds to the information I got on Lookout Hill) the people killed whales, extracted the oil, and exported it to Portugal for the manufacture of hair and skin products, and they used the teeth for jewelry and other crafts. Indeed, although the whale procession borrows many elements from historical processions, as an event it is invented. The lake-to-sea route is a simulacrum, with no meaning grounded in original local practices or beliefs.²³ Actually, until a few years ago, the whale procession started on the beach just north of where Antonio and I are sitting and moved along the beach to the whale cemetery, where it entered the sea.

The organizers used to put a new whale out to sea every year, but the artist who made this one has taken it in and out of a garage since 2000. Some people complained about the lack of authenticity in any act that offers the whale to the sea but then brings it back in again. (If the gifts of flowers and dolls bestowed on Yemanjá on February 2 return to shore, believers take the rejection of their gifts as bad luck. Speaking for the sea, Antonio complained that in any case the whale should be made of environmentally friendly materials, such as wood and paper that will decompose without polluting. It was decided: by getting money from some corporation or the city, the people can build a new whale every year. That is the plan,

and that is why this year's whale had "2001–2007" painted on its side and is not supposed to journey back.

And another thing, Antonio says. Malê Debalê parades the whale all around the city. After walking in the pre-Carnaval lavagem procession in Itapuã, Malê Debalê takes the whale on the Campo Grande circuit with the troupe and around other neighborhoods in central Salvador, finally returning it to Itapuã in time for the proper whale procession. Itapuã's whaling history does not find an explicitly communicated forum in these citywide whale travels. Antonio expresses dismay that the whale serves Malê Debalê as propaganda with an aim of inserting Itapuã as a neighborhood player in the city's spectacular global moment. Unmoored from a narrative of whaling history, and waylaid from its proper landing point in maritime habitat, the whale travels the city streets as an advertising logo. Fakelore not Folklore!²⁴ I thought, feeling taken in, a victim of jive and made susceptible by my quest for cosmological significance in popular culture. Ha!

Since then, I have reconsidered the error of my overly romanticized assumption that the coherent relationship between landscape and tradition consistently carries over into popular culture. Indeed, moneymaking fakery finds comfortable places in many disingenuous festivals.²⁵ Real whales don't go anywhere near lakes, of course, but manufactured images of the whale, like those of pandas and other charismatic megafauna, can be and are lifted out of their natural habitat and sent into unnatural places along the networks of human communication. Similarly, Abaeté's map imagery symbolizes a mystery; its dematerialized amoeboid V shape moves through Internet circuits and onto paper brochures. Consider too, the flesh and blood Bahianas. They symbolize traditions that come alive in the festival cycle, but they also represent individual working women who sell traditional food at street stands, who hire themselves out to meet and greet tourists at airports and hotels, and who make money by allowing the capture of their photographic images in the streets of Pelourinho. Clever crafts people also appropriate the Bahianas' image in the form of plastic, painted brown dolls dressed in lacy whites, like the small parting gift I received from my friend, the pocketbook maker. The abstraction of animals and people and their arbitrary rearrangement find expression in almost all social spaces called festival. As they are disembodied and synchronized with global commerce, the wisdom of places fades into memory (see Lefebvre 1991).

In sum, the sense of freedom the whale represents can be lifted out of traditional systems of ideas and practices and circulated as an element in a festival market. The whale of historical imagination is captured, sculpted, and painted, and its route is diverted to Malê Debalê headquarters, which happens to be near a lake. In the meantime, real humpback whales (*baleia jubarte*; *Megaptera novaeangliae*), may swim by Itapuã on their way to breeding grounds in the Bay of All Saints (Taís and Queiroz 2007). Some of them get stranded on city shores, where people must be persuaded to

call others to help their mammoth mammalian sea cousins return to sea rather than kill and eat them. In this endgame ecology, the whale instructs us in the arbitrary power of culture to sever our relations with nature even as we extol its marvels.

Bygone Days: The Quiet Life of Dona Pitú

Festival cycles and memories of quilombo uprisings sustain social cohesion and identity in Bahia. That said, survival depends most profoundly on *habitus*, mundane habits and dispositions keyed to the local maritime environment. Pierre Bourdieu defines *habitus* as systematic yet durable, transposable into different modes; it generates structures predisposed to function in ever-changing contexts that “can be objectively ‘regulated’ and ‘regular’ without in any way being the product of obedience to rules, objectively adapted to their goals without presupposing a conscious aiming at ends or an express mastery of the operations necessary to attain them” (1985: 72). Without an active sympathy between informal repertoires of *habitus* and formal codes in environmental law, transforming our more criminal relationships with nature will be quite impossible.

In this spirit I turn to the simple, hard life of the old laundress, Dona Pitú, whose footprints once trod far and lightly across the dunes of Itapuã. Her *habitus* recalled embraces an everyday practice that offers an alternative to the carousing havoc staged in Itapuã’s dunes. Memory, someone’s memory, provides the only lane to the past. One can imagine with her, a companion to her remembering, the lakes of Itapuã’s past and savor the treasure of her quiet ways and a waning way of life. This must have been why Antonio suggested that I speak with her. I interviewed her twice in the home she shares with her daughter, which she rarely leaves.²⁶

Dona Pitú’s house sits on a corner along the whale procession route where the road crests and the hill visually encounters open sea. Behind a painted cement wall with a wooden door, it sits in the middle of a yard strung with clotheslines. Jason and I knock at the outer door, and her daughter takes us through the yard, through the house’s open door, and into the front room of soft, colorful couches and chairs, ample windows, electronic equipment, and knickknacks, where Dona Pitú invites us to sit and asks us why in the world we have come to speak with her. After all, it is her cousin Dona Biêca, who lives nearby, who knows about spearing whales.²⁷ When we return to videotape a second interview on our last night in Bahia, Dona Pitú says she has been wondering when we were going to show up again. The following description is taken from both interviews, which basically cover the same terrain.

She made her living washing clothes. Early every morning she would trek over the dunes with her children. They passed by Lagoa de Abaeté, where all the other laundresses and their children would spend the day; crossed the valley of banditos I walked with the TV-Aratu production team and police guards; went past Pisquilha, the lake that is now submerged

under the Sofitel Golf Condominium Complex; and finally came to a lake by the name of Dois-Dois, now the site of the housing development Pedra do Sal (or as she puts it, the place that is “full of the houses of the barons”). She went to wash clothes at the far lake, away from the hubbub at Abaeté, because she treasured solitude and tranquility. There was no time to eat in the morning, so she and the children would take food along. She got the dirt out of the clothes on a rock using a plant (*nicurí*), not brushes. At night, after they got back, they would eat bread, dry manioc flour (*farinha*), and meat. In the mornings, her husband went in the opposite direction, to rice fields.

On days that she didn’t have clothes to wash, or days that it was too wet for the clothes to dry, she would go to the same area to gather firewood. There were no stoves. They cooked in clay pots. They had no coal. Some days she would walk far beyond the dunes of even Flamingo Beach (Praia do Flamengo) to gather fruits on the hill, returning only in the afternoon. She walked with her head held high. Now, she says mournfully, we can’t leave the house (for fear of crime). We stay inside with the door closed. She is eighty-six years old and almost blind. “I don’t leave here,” she says.

Her middle-aged daughter must leave the house, however, because she is a day worker (*diarista*) in the houses of others. She grew up washing with her mother and is now in the same profession. She bought herself a machine, by saving the money she earned from washing at the lake, because, she says, her arms cannot do it anymore. “I washed a lot.” As I talked with her mother, the daughter moved about the house folding and stacking clothes, putting them on and pulling them off the sunny line outside.

The house was hooked up to water a long time ago (probably the 1970s). They have an old rooftop thousand-liter reserve tank, which needs replacement. Before that, they collected water in the daytime from the once generous Barrier Lake at the foot of Lookout Hill. They also used a cistern (*cacimba*) near Segundo Centro, near the market: This water was so good, they would spend their entire day waiting to fill cans with it.²⁸ We always bathed in both the lake and the sea, says Dona Pitú. Now there are more tourists. There used to be a lot of animals (I catch and translate only a few of the names): snakes, alligators, iguanas, ducks, geese, freshwater fish like *piaba*, and arthropods. In the olden days they had sheep and goats, and everything ran wild. Everything was surrounded by forest.

Dona Pitú has always lived in this same spot. She gave birth to her ten children in this very house. She never went to a maternity ward. Half her grandchildren have died. One grandson, Marco, had the present house built for her in the same spot as her old one. She sits across from us wearing a light cotton dressing gown and slippers. A light sea breeze flows through the window, bringing in voices and melodies from various people whose upper bodies we can see moving through the bright side street. The tiled roof shades and cloisters us in the relative quiet within. Circled by framed pictures of flowers and psalms, tended by her family, she sits with nothing

to do and says that she is only waiting to die. In the meantime, her ancient eyes can still see the beauty and bounty of the eyes of water in the dunes of her youth.

One easily assumes that Dona Pitú never partied much, but her favorite lake had once been a part of the festival cycle for the people of Itapuã. I learned this one Sunday while interviewing Gloria at her barraca. Chico strolled by and overheard us as I spoke of the old laundress.²⁹ He told me how his group used to go to those lakes higher up, like Dois-Dois, where Dona Pitú used to wash clothes. Dois-Dois was one of the ephemeral lakes, appearing only in the rainy season. To celebrate the holiday of São João (Saint John), everyone would gather, hike to Dois-Dois, get drunk, and then jump in the cold water, which quickly sobered them up.

Chico's condensed collective holiday memory of Dois-Dois contrasts with Dona Pitú's more mundane, elaborated ones. Memories belong to both the collective and the individual; their content, what one remembers, or forgets, is shaped by life experience and the changing interpretive frameworks of social groups (Jelin 2003: 9–14). Because mass-mediated urban festivals tend to appropriate, homogenize, and disarticulate beings and places, personal and local-collective memories of small aquatic sites like Dois-Dois share central stage for enhancing the potential for reimagining contemporary human-water relationships. If popular culture is to serve as a vehicle for social change, it cannot operate only like fashion, a self-referential system of signs without a system of real meaning embedded in people's everyday lives (Roland Barthes, cited in Wise 1997: 63). In terms of this discussion, then, we cannot depend on a logo of a whale rather than performances that convey the significance of whaling in the overthrow of slavery or rather than performances that engage audiences with the songs and situations of living whales.

Topographic Memory Making

Somewhere among Dona Pitú's poignant life, families with joyful little children following a papier-mâché whale, and body-part prayers of thanks suspended from ceilings in Bonfim, somewhere among the assassinated youngsters and the haunted quilombos, the military police posing boogeyman dune banditos of the imagination, and the vast pissing, singing, kissing, and jumping hordes of people from near and far having, once again, the time of their lives, there is a layered terrain of physiochemical and social relationships and flows, remembered and simulated traditions, pleased survivors, and forms of peaceful productivity. Amid all this, the small lakes, like eyes of water opening and closing in Bahia's sands, suggest themselves as a place to focus efforts to reshape our human-water relationships. "This is my workplace, my beach," I imagine myself telling the water agency librarian; this is where we can renegotiate the way we value, interpret, and represent the past and future in the light of ecology and equality and with some reverence for the wisdom of places and the sentience of whales.

4

Of Sewage, Sacrifice, and Sacred Springs

Infrastructure, in a technical sense, has a peculiar relation to culture and politics; the state realizes itself on the material plane through monumental and mundane projects. The more visible in the landscape and the more consistent with modernist (or “heritage”) engineering aesthetics, the greater the performance value: For example, hydroelectric dams epitomize pharaonic accomplishment, and sculptural and architectural monuments to nationhood hold symbolic centrality. Yet infrastructure that functions without added aesthetic investment, such as underground pipe networks for water, sewage, drainage, and electricity, also plays a crucial role in the state’s performance credibility. After all, the state has a primary responsibility to coordinate and ensure normal, everyday life or at least speedy recoveries from catastrophe with respect to infrastructural disruptions.

Still, when systems suddenly fail, or even if they appear too untidy, the power of performance in both modes, monumental and mundane, can suggest state weakness.¹ When the state chronically fails to distribute fairly and reliably services and resources, or when the risks and negative impacts of monumental projects fall unequally, questions of corruption mix with those of incompetence and injustice. Then too, the annoying disruptions of large engineering projects that try everyone’s patience, drain coffers, and endure beyond politicians’ terms in office and interests weigh heavily in the scale. When completed, infrastructure lies covered by asphalt and cement or, like port infrastructure or hinterland hydroelectric dams, exists outside the everyday public spaces and talk and is taken for granted shortly after the conclusion of opening ceremonies. Decision making and management fall to some combination of government and private industry. Neighborhood

people get involved only if and when something goes wrong (e.g., flooding, intolerable port expansion, and dam collapse).² This suggests that neighborhood participation assumes democratic governance processes are ongoing in some form and that there is a compunction to avoid mass street confrontation.

Infrastructure also has a peculiar relation to aquatic ecology. On the one hand, it parasitizes waterscapes and sources, capturing flows for treatment, distribution, and industrial use, and co-opts them for waste removal and land extension. On the other hand, as I begin to show in the analysis of Lagoa de Abaeté (see Chapter 2), the jurisdictions of government bureaucracies that manage water infrastructure and that monitor public and private uses and abuses operate in a fragmented manner that does not effectively apprehend, much less coordinate, the interactions of natures and cultures in cyborg cities (Swyngedouw 2004; Kaika 2005). This study of aquatic culture contributes to the work of scholars and activists in laying groundwork for a more holistic understanding of urban ecology or, in the phrasing of Gene Desfor and Roger Keil (2004: 71), calls for a “radical reframing” of urbanization in ecological terms.

I analyze infrastructural forms as material dimensions of culture on the scale of, and dependent on, an internationally financed and functioning state.³ In the process, I strive to walk the lines between the pressures of need and critique, optimism and illusion, and popular memory and facts of life. In the name of “Order and Progress,” the words on Brazil’s national flag, urban development and hydraulic engineering destroy the old to make way for the new and destroy natural water sources and waterscapes to make way for the manufactured. These labors appear crucial to the well-being of urban populations. But the call for engineers to reconsider frameworks motivated by the desire to control the forces of nature compared with those motivated by the desire to interact dynamically with nature’s flows (Meyer et al. 2010) should give pause.

Let me emphasize that I fully support the worthwhile goal of universal extension of water, sewage, and flood control services and structures as a means to lower mortality and disease rates, which democratically extends the public good and, more particularly, enriches the lives of girls and women to whom most often falls the task of water collection.⁴ I also have no doubt that sewage collection and treatment contribute to ecological sustainability in urbanized settings. I am simply pointing out that building infrastructure without consideration of the water sites and sources that it displaces may unnecessarily destroy precedents and alternatives. By focusing on marginalized aquatic ecologies at the neighborhood level, I hope to contribute to a thickening of our sense of what kinds of sites, sources, and cultural practices might enter into and reshape urban ecology. I delve again into intractable contradictions in the analytic borderlands (Sassen 2006: 382–383) to track and detect the underside of progress.⁵

Infrastructure projects do not simply add services and expand access; they also lay waste to natural and historical water resources that might

otherwise provide future alternatives. I hope to puzzle out this tragic and mundane reality. Salvador is a fair place to explore the paradoxical consequences of infrastructure's benefits on the neighborhood level for three reasons: (1) Salvador went from being one of the worst cities in Latin America in sanitation forty years ago to among the best in Brazil today, ranked first in water provision (Bahia Azul 2006: 11); (2) it has a historical blessing of plentiful freshwater; and (3) its port successfully withstood the container revolution.

Discussion focuses on two forms of infrastructure: the mundane, primarily underground infrastructure common to all modernized cities (integrated networks of water, sewage, and drainage) and the monumental, or more precisely, sizable, spacious, and central, redevelopment projects on the harbor front. The chapter crosses the peninsula from Itapuã on the Atlantic coast and makes a couple of stops along the way before reaching the Bay of All Saints and the Comércio, the oldest commercial district in Salvador, indeed, they say, the oldest neighborhood in all of Brazil. The port zone sits at the Comércio's edge, where this historic city has greeted overseas traders and functioned as a node in global maritime networks since the sixteenth century.

Maritime culture in the port and its surrounding neighborhoods, including ingrained reliance on corruption and smuggling, has been dramatically reorganized. Yet much of the original infrastructure, although marginal, remains. In Chapter 6 I discuss water infrastructure and legal issues unique to container ports. We should realize that port zones and ships rely on basic city services and are affected by city problems. For example, ships fill their water tanks by connecting to city systems, and dock areas may suffer from being at the archaic edge of centralized sewage systems.⁶ Moreover, container port zones may lose out in their competition with harbor-front development aimed at tourists.

First, I frame the fieldwork exchanges with a brief discussion of the uneven and layered effects and perceptions of development. Following that, the chapter presents development and revitalization projects in a way that highlights contrasting views of those central to their promotion and of those who are critical and marginal to their benefits.

Hierarchies of Development and Water

Hierarchies of development determine the infrastructure that differentiates water sites and sources functionally and aesthetically. The implications of different development patterns and priorities for environmental and public health though not inconsequential may sometimes be unexpected. In any case, one seldom notices the obscured, diffuse, and negative effects on aquatic ecology. So, for example, a person on the beach may gaze out at the container ships waiting on the horizon, and the visual connection may not consciously translate into an awareness that the interconnecting flows and impediments that shape local ecology are a holistic system shaped in

part by distant forces. Workers sweep public beaches clean of plastic and other garbage, but if they wait until morning, as is customary, tides pull a good portion of the previous day's partying into the sea. Pipes in the central networks collect sewage, and laboratory technicians measure and report residual fecal contamination that leaks into swimming areas, but their reports ignore other contaminants, such as heavy metals.

In contrast to popular public beaches, adjacent transit and docking areas for shipping operations and their industrial partners upstream, although formally subject to environmental water laws⁷ are for the most part sacrificed in practice to the needs of industrial contaminators whose green impulses may not extend beyond PR. Thus, tourism and trade differentially structure this major disjuncture of urban coastal development. On the biological level, however, categorical differences are less real than apparent: The beach is not pure but pure *enough* for people to enjoy holidays; the shipping channels are not more contaminated than necessary given shipping requirements and weak environmental law enforcement. The ecological picture is mixed: Human intervention organized by hierarchies of development both create and destroy future possibilities.

The small-scale water sources that Antonio guides me to in this chapter may lack enough significance to even fall within the scope of official development hierarchies. People like Dona Pitú who once upon a time considered the springs, streams, and public taps to be central local water sources now have no need of them. Once central to the organization of social interaction in time and space, these marginal remnants exist mainly in the recalled images of nature and tradition, mere chimera subject to nostalgia or indifference if anyone thinks about them at all. Nevertheless, some people still rely on, or prefer, the public taps and springs that remain in the Comércio. However, the very reliance on or preference for public water may in and of itself signal a form of social marginality, in the way homelessness and poverty do. Across France Avenue, under the grain silos towering above the port zone, a hostile razor wire fence signals exclusivity of industrial business and a man completes his bath in falling water, a remnant niche amid the industrial landscape claimed by transport. I attempt to initiate a conversation about water use with no success.

Project Blue Bay: The Mixed Blessings of Bahia Azul

Bahia Azul is one more civil construction to attend the interests of whom? They don't say. This model of development . . . is a valorization of capital not nature.

—DR. EVERALDO DE LIMA QUEIROZ, biologist, UFBA⁸

The city is over five hundred years old. Most of that time there was no environmental or water consciousness. The water table is already compromised.

—PUBLIC EDUCATOR FOR THE WATER COMPANY EMBASA⁹

Between the sixteenth and eighteenth centuries, people got water from natural sources and public taps (de Lima 2005). Fast forward to the early 1990s: Rural migrants from the interior fleeing drought and starvation sought livelihoods in Salvador, filling in the rough terrain of the city's once green valleys with irregular settlements. The Parallel highway had been constructed across the dunes and forests to develop the central area of the peninsula, where another patchwork invasion of regular and irregular construction sprawled. Meanwhile, the petrochemical industry had polluted its home port inside the Bay of All Saints in Aratu; sewage systems perished in their own insufficiency; rivers, reservoirs, lakes, and other waterways became too polluted for anything but shipping; "dead" rivers were officially dedicated to sewage; and the beaches were too dirty for social life or bathing (Bahia Azul 2006: 19).

Amid this severe degradation, the state of Bahia with US\$600 million from the Inter-American Development Bank, World Bank, Japan Bank for International Cooperation, and federal and state sources launched the decadelong Bahia Azul project, 1995–2004 (2006: 19, 39, 73).¹⁰ With these millions and an environmental education staff alone of over ten thousand, the project reportedly met 98 percent of its goal to provide sewerage to 70 percent of the population, 100 percent of its goal of providing potable water coverage to 80 percent of the population, and 100 percent of its goal of providing garbage services to 5 percent of the population. Potable water continues to travel 570 kilometers to Salvador's treatment plants through a pipeline descending from the rivers of Chapada Diamantina, highlands in the drought-prone interior of the state. The city collects its sewage, filters pieces larger than two millimeters, and sends the otherwise untreated remaining effluent through an underwater pipe that disgorges on the sandy seafloor 2.75 kilometers offshore. The project's book does not mention that strong ocean currents run 5.5 kilometers offshore—2.75 kilometers beyond the outlet—and so it seems unlikely that the offshore waters can sustain the assault for many years. The geoscientist Dr. Landim showed me a color photo of the outflow plume, a large yellowish-brown circle visible from the air.¹¹

There has been dramatic improvement but much remains unfinished. And one cannot help wondering, as did biologist Queiroz (quoted at the section's beginning), whether a better use for some of the US\$600 million could have been found. According to Bahia Azul's own statistics, 30 percent of the estimated population does not have access to sewage hookups and 20 percent does not have water. The negative impact on aquatic ecology of those left out intensifies in practice by additional factors (e.g., systems do not work as well as they might, people do not take advantage of hookups for services for which they either prefer not to pay or cannot afford to pay).¹² One can nevertheless say that, thanks to Bahia Azul, most people have potable water and sewage connections available to them, and during the dry season gates close to block most of the sewage from entering the rain water drainage system, thereby diverting it into the main sewage

system and piping it underground to the ocean. These improvements almost alone brought Salvador out of degradation and into the world of high-priced real estate, with many well-placed individuals doing very well in the process.

I interview the project's chief operating officer, a sanitation engineer in his last week on the job he has held for a decade (the state government is changing regime postelection). He gives me the beautiful glossy book on the accomplishments of the bureaucratic entities that cooperated to build the infrastructure from which I draw many of the details in the prior sketch. His high-rent office is on the twelfth floor of the Suarez Trade Building, a glass tower with a marble-colonnaded ground-floor café tucked in next to the elevator bank. The Suarez Trade Building sits beside a major intersection in the newly developed interior peninsula. The gigantic shopping center nearby, Iguatemi, whose price- and race-coded levels—the higher up you go, the pricier and more race stigmatic it gets—rests in the shadow of an Evangelical church (the Cathedral of Faith Universal Church of the Kingdom of God), near the central bus station. In the cleft between hills directly in view from his secretary's picture window sit two irregular settlements (favelas named, says the secretary, Pernambuco and Nova Brasília).

Conceptually, the Bahia Azul office seems to be on the other side of the universe from the street scene directly below. The freshwater river adjacent to the building once ran through rocks and sand, but it was killed by uncollected sewage, and then the channel was lined with cement and hooked up to the three-thousand-kilometer collection network. Now, during the low-water season, the half-filled channel swirls with sewage. But the system remains insufficient. In the rainy season the sewage rivers overflow into the surrounding streets and onto the beaches as before.¹³ And since the government commends Salvador as a model of water and sanitation success, we can assume, and my observations lead me to confirm, that other industrialized port cities experience even more intractable problems of public and environmental health associated with contaminated water and flooding.

In any case, I doubt whether any coastal city in the American South Atlantic extended services universally—so we must assume a goodly number of people go without. I have no wish to impede necessary and urgent historic struggles to extend infrastructure and services or to impede legal regularization of irregular settlements that are in ecologically sustainable locations. I do, however, think that we need less barbaric forms of engineering to accomplish these tasks. But for the very reasons (discriminatory financing, uneven topography, irregular settlement patterns, and poverty) that the designers plan many people out of services, I believe that the suffering of those left out intensifies as does the frightful predicament of natural water sites on which life depends. People cry out for the very things that destroy sites of natural beauty and, perhaps, their own source of health and spiritual well-being. Local politicians who obtain resources

for their communities and garner community votes deliver resources in bundles: electricity, paved roads, and domestic spaces connected to potable water and sewage systems. Who doesn't want these gifts of development? Yet wanton practices, dominated by the engineer's straight edge, rule their design and construction. Why not curve the road line to save a spring or well site instead of covering them with asphalt and lighting up the empty night ground?¹⁴

A Walk to Marginal and Magical Water Sites of Itapuã's Commercial Street

Our love shimmered over moving waters.

—CAETANO VELOSO, "Itapuã"

While it takes upward of two hours by bus down the Atlantic coast or across the peninsula to get to the city center, twenty minutes would probably suffice in a car and without traffic. The vacation and retirement enclaves that dominate Itapuã's landscapes, as Teresa Caldeira (2000) shows in her study of such residential formations in São Paulo, are always disjunctive. Invasions of poor and rich differentially territorialize areas between the homes of descendants of generations of families of fishermen. Below ground, new infrastructure unifies and makes possible the—if not convivial then at least coexisting—cross-race, cross-class, and cross-nation cultural life. Itapuã, home to thousands of Afro-Brazilian people, the ocean, coconut groves, dunes, and rain water lakes that distinguish its beauty, has been made famous in songs by Caymmi, de Moraes, and Veloso. Yet Itapuã must evermore suffer the circumscription of cement: The beery celebration of their tropical paradise intensifies in direct proportion to the destruction of humans and habitat. But perhaps I protest too much; let our walk with Antonio tell the tale.

Antonio Conceição Reis is president and the most ardent, only consistently active, and founding member of the environmental activist organization Nativo de Itapuã. Although we usually talk under the hilltop tree just above the lake, from where he and the Meninos de Lagoa Abaeté greet visitors and surveil legal and illegal activities, on this day, February 23, he takes me and Jason for a walk so that we may understand and make a videotape document of the negative impact of infrastructure on the communities' water sites and sources. I fully understand our mission only as it unfolds under the relentless sun. We first head downhill, away from the lake through quiet bright neighborhoods of small cottages and newer apartment buildings, toward the main commercial area. Passing through the fish market we detour through another residential byway called the Street of the Cistern (Rua de Cacimba), where Antonio stops and points to nothing: Before the 1970s, when they received piped water, people used to collect drinking water in this place. Only the street name remains and,

presumably, the water running through pipes under the asphalt pavement that the people demanded once they saw its use in other parts of the city.

An understanding of water sites as social places may offer insight into Antonio's vision of protection and restoration. Not unlike beer halls and cafés but free and public, unencumbered by financing of the construction and beverage industries, water sites doubled as performance stages for everyday interaction, where people inhabited and took pleasure in nature and necessity (for good or ill, I suppose, as Itapuã does not conjure an image of Eden). He would like to see some kind of marker, a statue perhaps, acknowledging and encoding local history and aquatic tradition at this site.¹⁵

Emerging from the residential street we turn away from the Mermaid and the bustling intersection where the main business street, Dorival Caymmi, begins and ends at the ocean edge.¹⁶ Antonio leads us through the familiar street busy with pedestrians, buses, cars, street vendors, shoppers, and school children. As his narrative unfolds, our imaginations stretch to sense the place as it was before, the terrain once dominated by dunes with lakes, rivers, and springs rushing toward the fish-filled sea. We walk in a reversed world: The hidden and marginal water sites appear as traces of a world more real than the real world, or at least strangely coeval with it. Only now, as I write, do I begin to understand how African deities like Yemanjá help people transcend and engage with the changes wrought by slavery, military dictatorship, and development, inspiring the impulse to *believe* as surely as the sands meet the waves.

Not far up, across Dorival Caymmi, under what is now a swimming club and Xerox store, a principal spring used to run where people from several surrounding neighborhoods collected drinking water. Continuing inland up Dorival Caymmi, past the furniture maker who made me a desk, the street widens around green space with a tree in the middle. To the right we pass a low-lying residential neighborhood defined by several small streets that angle downhill and intersect. A fast-running creek jammed between walls of two homes crosses under the road and emerges on the other side, clear but smelling of sewage. Every time it rains hard for fifteen minutes this low spot floods, blocking residents' passage to and from their homes. Before the asphalt, cement, and buildings arrived, the creek ran through dunes, cut across the main road (now Dorival Caymmi), and flowed beyond a place now marked with a blue commercial sign.

Continuing on the right side of the road, we peer briefly through a gate to observe a rock retaining wall of the type commonly used to keep the dunes fixed in relation to current property lines. One can still see a tiny remnant of exposed dune. When people first started building on top of the dunes, they did not understand the dynamics of dune migration; without retaining walls, their buildings collapsed as the sand shifted with winds and rains.

Before we reach the key site at the roundabout, we pass an outdoor market, the town hall, and a soccer field beneath a big dune outcrop. We're heading toward the Catú River (Río Catú), our destination, which flows a

few feet below the roundabout edge. Originating in Catú Lake (Lagoa do Catú), one of the smaller lakes near Abaeté, Catú gushes out of the dune's bottom, an energetic spring. Locals also call the Catú Bishop River (Río do Bispo), after the neighborhood it cuts through. A few feet past the spring's marvelous emergence, a huge pipe pours sewage and other contaminants, contributions from the road and from the housing invasion Nova Brasília (the same irregular settlement we saw from the twelfth-floor picture window of the secretary of Bahia Azul's chief operating officer). The site reveals the stark fact that the implementation of Bahia Azul moved only the most visible sewage flows away from the beach. Copious, unmanaged flows continue to contaminate fresh- and saltwater sources in the intermediary coastal zone. Stepping off the street and downhill past the sewage outlet, we quite suddenly find ourselves enveloped in a little piece of rainforest: cool green shade, frogs croaking, a bird. Despite the garbage strewn about and the buzzing mosquitoes, the lost beauty of the site remains palpable.

Climbing back out, Antonio (who is an Evangelical Christian) explains the importance of the site relative to ritual and Macumba practitioners: Had I seen the water full of offering bowls?¹⁷ No, my vision had been distracted by the strewn garbage, which as it turns out, is probably the packaging left by the people who brought ritual offerings. Custom dictates that wrappings remain with offerings, metonyms perhaps, in which the magic of the latter rubs off on the former. I first noticed instances of environmental disregard at sites that hold sacred meaning at Abaeté and Lookout Hill. The gap between rituals performed at key natural aquatic sites and the sense that the sites need caring for continues to astound me.

In the middle of the roundabout (and here Dorival Caymmi turns into the highway), we encounter a small grove of *jamelão* trees (the juice of whose small purple fruit, which drops when ripe, is sold in the market and whose dark, waxy leaves treat diabetes), and we see many offering bowls and vessels of various shapes and sizes scattered around the trunks, some broken, all emptied of their offerings except that some contain water, excellent for mosquito breeding. To any casual passerby, the once careful and, perhaps, sacred wrappings of gifts and spells merge, indistinguishable from other pieces of highway garbage flung through vehicle windows. At first I think of the mindlessness of spiritual practitioners as paradoxical, attributing sacredness to a spring yet using wrapping materials that ultimately desecrate the spring. Why not return to using natural wrappings? Or are these rituals just like ordinary human habits that we fail, unthinking and passive, to adjust even though they harm? On a global scale humans suffer a kind of oblivion in which we can never account for, much less diminish, contamination. We are eased into ignoring our mistakes by the convenience of waters that flow through domestic taps and into and out of mountains of plastic bottles that are said to then flow and intertwine with plastic nets and other garbage in giant islands in the farthest reaches of the ocean. We lost something in our cultural relationship to water. From ruler-bound engineers, to systematic evasions of paying for services by

polluting flows of rainwater, to spiritual practices that do not preserve and respect the spirit of the sacred sites on which they depend, to the consumers of tap and bottled water who drink treated and transported waters without thought of origin or effect, something is missing.

The walk with Antonio reveals the existence of marginal, magical sites and sources that would have gone unnoticed, even by me, a researcher studying the political ecology of water. It would be impossible to try to save these little places one by one. Rather, we must think of them as hydrological signs and symptoms of our aquatic states of being, clues to the interconnected flows and pools, tables and aquifers, that give form and cover to our most important earthly treasure, the freshwater sources and sites that we must reconfigure as culturally central once again. The forces and designs of development must be accountable for the damage provoked by progress: The hierarchies must be modified if not reversed.¹⁸ We should hold the forces and designs of development accountable for the damage provoked by progress and modify if not reverse the hierarchies.

The Holes of Memory

Infrastructure projects, and urban development generally, do not simply add services, add access, and provide the basis for economic opportunity; they also lay waste to and privatize common resources that might otherwise provide future alternatives. These resources include not only clean water as substance but waterscapes, places in which local culture happens, crucibles of personal and popular memory. Lest my discussion so far obscure the cross-class effects of sewage and sacrifice, I make one more point and present one more scene before moving on to the oldest port neighborhood. Although the poor suffer the most, they do not suffer alone from inadequate water, sewage, and drainage infrastructure. Even the elite live near or pass by rivers of open sewage; in the rainy season, contaminated waters flood all kinds of neighborhoods. Before moving on to the historic Comércio, I stop along the coast near another modernized neighborhood, the mostly middle- and upper-class neighborhood of Rio Vermelho. We come near the fishers' cooperative where celebrants honor the popular goddess of the sea, Yemanjá, every February 2.

I am walking with friend and artist Maria Luiza Mendez Lins, "Iza" for short, and her sister, an occupational therapist.¹⁹ Iza lives up the coast in the colonial port city of Olinda, but she's now visiting her sister, who still lives within walking distance of the home their middle-class family shared when the middle-aged women were girls. We wind through residential and commercial streets busy with vehicular traffic. They want to show me the two connected coves called the Holes (*os burracos*). Two big hotels now dominate the Holes. A guard post monitors the entrance to the wide drive connecting street to hotel. As we walk the drive, the sisters tell me about how they used to hang out on the cliff overlooking the Holes long before the hotels privatized the public-by-law seascape. Nowadays,

the women feel compelled to ask permission to walk up the drive, the only access to the cliffs, beach, and panoramic view. “But today,” Iza’s sister declares, “we don’t have to stop and ask permission. She’s [referring to me] a gringa. She does not have to ask permission.” This makes me, a stranger, feel strange: Someone has usurped the sisters’ past and their place in the name of a social category in which I fit and, by virtue of my appearance, sustain privileges. That we are all “white” indicates the subtleness of the category identification—it is not merely race or even language (as we never do address the guard) but encoded in a Westernized foreignness of dress, bearing, and hair color (blond for me, black for them).

Between the hotel towers we come on a flat open space. It is dotted with what appear to be septic tank covers. Sewer pipes dump contents directly onto the rocky shore. So this landscape, no doubt stunningly beautiful when viewed from the suites and restaurants on high, smells of the excrement the guests produce. We sit on the seawall looking up and down the coast (the point of Amarelina blocks the view of Itapuã to the north). Looking toward the closest tower entrance, we see guests exit, the liveried attendant helping them into an awaiting car. Windows closed, air-conditioning running, they never sensed, nor are permitted to sense or even suspect, the foulness of the air. Looking toward the sea, the low tide reveals a rocky shore and what looks like an Afro-Brazilian mother and two boys enjoying the view. As the sun sets, two rats scramble into the scene. Iza says that she has a unique perspective on the rats: it is not their fault we have destroyed their natural environment, forcing them to consume filth to survive. She recalls a nascent love story: the Holes represent the set for a transoceanic romance that ended sadly and persists still in Iza’s dreams.

A mix of construction and erasure, invisibility and stench composes the waterscape. Iza’s memories stretch this place’s potential in my account, even as time and circumstance constrain it.

Vitality and Marginality in the Comércio

One arrives in the Comércio via a ride down in the famous elevator of Pelourinho, the colorful UNESCO World Heritage site. “That’s what’s left of the old prostitution zone,” an informative local points out as we pull our sight lines in from the magnificent bay vista to the escarpment beneath. “It won’t be here long.”²⁰ The trading port is a vibrant mosaic of sixteenth- to twenty-first-century history, dereliction, and reinvention. Built into the cliff, vernacular houses and informal businesses perch precariously in a tidy but ramshackle strip extending from the elevator’s bottom entrance. A bustling warren of narrow cobblestone streets with colonial-era buildings and plazas, the neighborhood’s core, holds it all together: the gentlemen’s and ladies’ fashion boutiques, great restaurants, traders with little tables and stands selling fruits, vegetables, chilled coconut water and freshly squeezed sugar cane juice, cooked food, medicinal herbs, and sundries



Figure 8. Man collecting water in the Comércio. Photo by C. Jason Dotson.

along with newspaper and lottery stands, all flanked by a tourist market and government buildings.

Remnants of the once vibrant maritime culture, that tidy but ramshackle strip grabs my attention. Framed by hanging swaths of vines and billboards, stone stairways crisscross the cliff, linking occupants to Pelourinho above and to the flats below. Freshwater gushes naturally here and there, free of the earth and seaward bound (see Figures 8 and 9). One day, in the warren of cobbled streets near the elevator, I speak to a middle-aged woman in a housecoat, one of the people I have witnessed collecting water in a plastic bucket from short sections of white PVC pipe jutting out from the bottom of crumbling a wall. She says she likes the water better than that from the tap water in her home.

Like the spring in Itapuã that runs out of the dune and flows under the highway, these springs are part of modernized Salvador's marginal aquatic ecology, places and edge spaces forgotten or ignored by administrators. Outside or wedged between central networks, the springs exist as precariously as the irregular houses and prostitutes who service ship's crews and other old-timers who haven't yet been displaced from the cliff. The springs were not always marginal. Indeed, in colonial times, the state captured the waters springing from the escarpment, incorporated them into the architectural foundation of the city, and marked them with molded state and church insignia. When sixteenth-, seventeenth-, eighteenth-, and nineteenth-century ships plied the Atlantic Ocean and reached the Comércio, they provisioned with spring water flowing through these public taps,



Figure 9. One of a number of informal water collection sites along the street backing on to the escarpment beneath Pelourinho.

called *bicas* or *fontes*. Today, these anomalous infrastructure-architecture hybrids appear as small symbolic enclosures set in intimate, graffitied plazas. Architecturally, their beauty shows through their marginalized state. Sometimes it takes a story to make a dead bica come alive again.

Cave and Fountain at Taboão

Count D'Eu Street, short and cobbled, runs from bay to cliff. I am killing time before an interview. At the nearly perpendicular angle at which the base of the cliff meets the street, under the asphalt slope (Ladeira do Taboão), sits the dejected remains of a sixteenth- or seventeenth-century bica. Beneath the fountain, extensive underground galleries ramify outward through five arms.²¹ The bica's sculpted stone mask from whose

mouth freshwater once rushed—water apparently claimed by the count—has been ripped off and its pipe broken, only dry rubble remaining inside and around the elegant archway. It is unapproachable, surrounded by tightly parked cars. The Taboão fountain was deactivated in the 1940s, which is about when the neighborhood's central water system was built.

When I stopped an elderly passerby to ask about the bica of Taboão, he said, “No. That’s not the bica, the bica is over there,” pointing to a corner store across the way. Sure enough, the bica was transferred and recomposed to become a few-inch length of PVC pipe, the sweet water pouring directly out on to the bricks under the cement step of a shoe store and the entrance of the Elevator of Taboão, a defunct funicular that once carried people to the upper city. A man inside the shoe shop is willing to tell me what he knows, inviting me back out into the open to do so. He says the original bica contained a tunnel through which freshwater ran out to the beach. He himself had walked five hundred meters through an underground gallery leading out of the city. The water, it is said, comes from underground passageways far away, where Jesuits used to live. The front and inside of the bica’s archway was once decorated beautifully with natural rocks of different colors. He says the community came up with the present PVC-pipe solution eight to ten years before the electric company excavated and installed cables and asphalted the slope, destroying the bica in the process. Another man scoops up water and bathes as we converse.²²

At the appointed hour, I leave the dry bica relic and its flowing PVC-pipe mate and walk a couple of blocks to meet with the general coordinator in charge of the Comércio’s revitalization.²³ An affable, enthusiastic Caucasian man, the coordinator and I converse in his modern office within a colonial building.²⁴ The ethnographic encounter takes the shape of port city development talk. Coded to attract investment in and consumption of cultural heritage, the general coordinator adapts global discourse to fit local capabilities. He performs expert transformational discourse (see Bauman and Briggs 1990: 75–76) in which he decontextualizes waterscape history by selecting certain features to highlight and then recontextualizes it, reframing and refitting the local according to a global model that combines business and heritage. Building on examples of port zone resurgence in many world cities, his attention turns first to the obsolete warehouses dividing city and port. Postindustrial ports are being transformed into prime real estate all around the world in compliance with this model (see Chapter 6). His discourse redeems spaces of dereliction with plans for future spaces of production and entertainment:

The aim of this office is to promote reinvestment in the Comércio, Brazil’s first neighborhood. Not only did the Europeans land here but for four hundred years the port held its place as the most important in South America [Santos and Buenos Aires vie now for that position]. Back then, the ships landed right in front of this building, in line with Mercado Modelo [the tourist craft market].

Over time, the area between this building and the sea has been filled in; the docks and many buildings stand on top of what was the bay. City founders traded coal, sugar, salt, slaves, coffee, and pepper on the docks.

The neutral word order of commodities is his, eliding Salvador's dubious distinction as the continent's first slave market, established to provide labor for sugar plantations. Past glory shifts sequentially into dereliction and resurrection as he proceeds:

And so the Comércio thrived as the city's financial and commercial center until 1980. With the construction of the Parallel highway; modern, planned neighborhoods with parking garages; and towering buildings with elevators, the city grew toward Tancredo Neves and Iguatemi [near the Suarez Trade Building that housed the closing Bahia Azul office]. Businesses left, abandoning the neighborhood for twenty-one years, until the creation of the revitalization office.

The general coordinator lists his office's three goals: (1) create financial incentives to reinvest in the neighborhood (tax abatement); (2) slowly and gradually improve and maintain infrastructure by, for example, paving, lighting, and cleaning streets and providing transport; and (3) create public-private partnerships. Under item three, he has considerable accomplishments. The city- and the state-level port authority, Docks Company of the State of Bahia (CODEBA, Companhia das Docas do Estado da Bahia) have each put in R\$300,000 toward the establishment of a new port complex. The master plan specifies removal of warehouses one and two and their transformation into a state-of-the-art cruise ship terminal offering cafés, galleries, stores, convention center, and deluxe hotel. The new privatized facilities will appeal to Bahians and tourists.

By presenting goals in a numbered list, he subdues differences among them. In practice, each goal is meant for, and can be expanded or collapsed for, different types of conversation partners, different publics. Each goal involves a different time frame and each carries different sources, scales and mechanisms of investment, and fantasy value. In his presentation to me, after merely mentioning items one and two, he jumps right into harbor-front development ideas. However, it is worth pausing to think about for whom the other two goals are meant. Although tax incentives (item one) are crucial, details would most likely be included in conversation with potential investors in position to take advantage of opportunities to withhold profits from public coffers in exchange for providing jobs. Infrastructure of the mundane sort (item two) is the only goal marked by temporal delay, suggesting to me that while he wants to assure everyone that future mundane infrastructure development is recognized as necessary, finding the funds and building it might be slow going. He does not include water, sewage, and drainage infrastructure.

Owned and administered by the port authority, the warehouses are officially squatting on prime waterfront real estate and blocking potentially profitable bay views. Currently, except for upstairs offices, they have no important function. One section on the street level is used as the official securitized passage to upstairs offices; another serves as a temporary thru-way for cruise ship passengers. When the apartment-complex-size ships let them out, a flurry of confused foreigners make contact with taxi drivers outside. Besides traffic whizzing down France Avenue, the scene is otherwise quite deserted. Truckers coming from and going to the port park and sleep here. When we come for interviews in the port offices, Jason and I always hurry through this part of the walk, choosing between the strong heat of the sun or the urine stink on the shaded sidewalk closer to the wall. About midway, near the central business area, a cluster of bus lines connect workers to homes throughout the city.

As the general coordinator continues talking, the transformation process builds on itself. As he brings in businesses and institutions, he brings in people and daytime street life. Bahian street life, like the aquatic life in and of the Bay of All Saints, becomes part of a new “assemblage,” an ensemble of practices, systems, values, and things that dynamically interconnect and recode to create new spaces and problems.²⁵ He explains:

This office has also established partnership with the Commercial Association of Bahia; four universities bringing in 6,500 students; call centers, including Telemar across the street, which has added 3,300 jobs—four shifts of six hours per shift—for a total of 6,000 new jobs for all the call centers combined; and the Regional Labor Court, which brings in 10,000 jobs per day. In addition, there are sixty-nine new, expanded, or improved stores with 10,000 new direct jobs and at least 10,000 indirect jobs—[for example,] bus drivers, money collectors, and sandwich makers. All together, there has been a 100 percent increase in the formal and informal economy.

The master plan focuses on four installations: (1) the Bay of All Saints, the biggest bay in the world, four times the size of Salvador, with warm water—25°C to 26°C—perfect for ocean sports and, thanks to Bahia Azul, tolerable pollution levels; (2) the new terminal built on the site of warehouses one and two, which will visually open up the bay for the public; (3) the Comércio neighborhood has a fluctuating population of 130,000 people per day—up from 80,000 three years ago—and (4) the elevator and funicular trolley linking the Comércio with Pelourinho, part of the UNESCO World Heritage site.²⁶

Because the health of the bay is central to master plan success, I wonder if Bahia Azul tackled the problem of archaic sewage systems (or lack of sewage systems), which I learned about in Santos, another sixteenth- to twenty-first-century port city. I learned from the chief operating officer

of Bahia Azul, the sanitation engineer, that the main focus of Bahia Azul, together with the Center for Environmental Resources (CRA, Centro Recursos Ambientais), is to clean up industrial pollution coming out of Aratu, the petroleum industry port on the inner bay. I ask, and the general coordinator of revitalization explains:

Rain water drains into the bay, but not sewage. More accurately, in 1990 the plans specified that Bahia Azul would run sewage lines to the buildings that were then in operation, 50 percent. The 50 percent standing empty when the plans were drawn up were never hooked up. Although Bahia Azul stretched over the next sixteen years to the present, *the plans for sewage hookups did not change with the changing city*. [My emphasis.] The old buildings—residential and business—have septic tanks that run through galleries underground and dump out directly in the bay [as does the old center in Santos]. But it is not as bad as it sounds, because most of the buildings operate only in the day as offices. Homes and industries, which generally produce the most sewage, and in the case of industries, the most harmful sewage, are not many. After all, the water along the Comércio shore looks transparent. [True; I had noted its remarkable transparency.]

I mention that in any case, other than filtering out solids of a certain size, the city does not treat the sewage, believing that the ocean has enough oxygen to handle the load (another piece of information I had learned from Bahia Azul's chief operating officer). This news concerns the general coordinator. Right then and there he calls to make me an appointment with CRA's director of inspection and monitoring, also wondering if I should speak with the governor's wife, Betty Wagner, the head of CRA. He wants to know what I find out. If the government is hiding anything, he would want this to come out in the newspaper. In the end, CRA officials do confirm the information but shrug it off as standard international practice. (I have not found out otherwise; the question of how much sewage the ocean can process is complicated, depending on currents, seabed composition, chemistry, and biology.) I report my findings from CRA back to him and that was the last of it, as far as I know. But to return to the general coordinator's revitalization pitch:

A visitor can walk all four installations in three hours. No other city has the combination. The key to its success is the joining of bay to the UNESCO site [above in Pelourinho]. Plus, there is, of course, an active port. We will also be developing the marina so that the public can rent a boat and a driver for a day for US\$100.

What, no whale-watching tours? As we near the end of the interview, the social dimension appears: He says, "The Comércio is a marvelous synthesis.

You see executives like me wearing ties mixing with the barefoot, homeless, and poor. There is no prejudice here.”

The lack of racial prejudice is central to the Brazilian national myth (*brazilidade*), and to be fair, the general coordinator’s comment does capture the diversity at the heart of the Comércio’s vitality. Yet John Collins (2008) makes tragically clear that commodifying heritage in Pelourinho, the neighborhood on the escarpment above, resulted in the displacement of thousands of residents to the urban periphery and the appropriation of the red-light district (“the mangrove”), among others. The residents, habits, and places that were allowed to remain and prosper in the arty tourist enclave of today fit into UNESCO’s model. It is not the only refurbished colonial architecture and cobbled streets that UNESCO pulled into its domain. In UNESCO’s new category of intangible heritage, “people may be construed as possessions of humankind” (296–297). Unfortunately, once people are possessions, the unwanted ones can be gotten rid of. This is what my local guide assumes as we look down from the upper city plaza onto the cliff that houses the remnant prostitution zone slated for disappearance. For better or worse, revitalizing the Comércio, bringing it into the global economy of knowledge production, telecommunication, and container shipping, articulates with, yet is distinctive from, the Pelourinho project. The adjacent neighborhoods have uniquely shared histories and possibilities.

The subject of synthesis and diversity gives me a chance to query the general coordinator about the possibility of restoring the neighborhood’s *bicas*, including them as a fifth installation in walking tours of colonial architecture. I bring it up with some ambivalence, given the risk that restoration might lead to the exclusion of basic water users. With a pained expression, he explains: *Some* people don’t like the *bicas* because *some* people bathe in them. The disgust (literally, dis-taste) of the disapproving marks the tense line between dominant and popular attitudes toward acceptable and offensive public behavior (Fiske 1989: 53). Who wants to see nude poor people bathing or washing with soap or washing their cars? He recognizes, and prefers to leave unchallenged, the water collection and bathing habits of those whose homes have inadequate water service or who prefer untreated precommodified water, irrespective of standard etiquette.

Conflicting attitudes toward *bicas* and *bica* users have a hydrogeological dimension. For example, the man in the shoe shop I speak with at Taboão says that the water is coming from underground aquifers that go on for miles underground. In contrast, CRA scientists I interview say it is a river from the guts (*rio das tripas*) of the hill. Ordinarily, it would flow underground down the slope and into the sea, but because the hill has been sliced open, the water springs out onto the flat. Like the entire water table under Salvador, it is probably contaminated.²⁷ In Renilda Fátima Gonçalves de Lima’s (2005) study of twenty-two city *bicas*, she confirms the polluted status of the water and suggests educational interventions to prevent further deterioration by misuse (pouring chemicals down the drain, washing

cars too close to the bicas, etc.). In any case, poor water quality may be a fact of life for bica users. Such facts may weigh against them (for their own good) in the continuing battle to preserve access (Kane 2010a).

How should one think of a master plan that ignores the bica in the re-making of place through capital investment? This leads me to consider the possibility that alternative water-use sites and practices may indeed have a political dimension as forms of resistance, marking what will not be relinquished, holding the line between local and global through quotidian use. The general coordinator graciously shares the location of a neighborhood bica that still flows, and Jason and I head off to find it.

Fountain of the Quarry or of the Idle (Predreiras ou da Preguiça)

We hug the base of the cliff, past the elevator to Pelourinho, edging along the Contour, a four-lane highway between the sea and the deteriorated colonial buildings on the cliff. The grand institutions of the sovereign state dominate the narrow strip of flat territory between the highway and water's edge: Customs, the Mercado Modelo (the tourist craft market), the federal police, and the Captain of the Port. Several meters beyond the foreign currency-inspired fringe, we are across the street from the gas station, our signpost. A man washes a car with piped water he accesses through a small metal covering stamped with a water company seal. He points down the road but advises us not to go there as the people are untrustworthy (*não são de confiança*, the expression for a zone that has not been conquered and disciplined for tourists). I tell him we are studying water management, after all, and he says, "Well, in that case, if you are only going for a few minutes, it's all right." A man is finishing his bath as we arrive at the bica, just beyond a Volvo dealership and a sidewalk café with a single customer. The lower four of the bica's six spouts are flowing. It was built in the sixteenth century with galleries for capturing water and has a covered reserve tank in a rectangular plan that sits in a sloped margin in Conceição da Praia (Conception of the Beach).²⁸ The rundown neighborhood has great symbolic significance in Bahian Summer Festival Cycle: The procession of the lavagem heading for Bonfim (see Chapter 3) departs from the church in this neighborhood.

Above the stone where the taps jut, the frontispiece portrays part of a twenty-first-century Bahian vision by a probably unauthorized mural painter whose layers of blue sky/green hills/blue water/sand have been playfully accented with a tagged graffito string ending with a happy-faced egg creature with legs. A marble plaque indicates the fountain was officially remodeled in 1851. There are a rag and a cup and a few other items of refuse people must have used for washing and left behind. A billboard looms overhead, its corporate message reaching out to passing drivers. The visual dialogues between muralist and tagger, and between street artists and corporate advertising, combine with water's contrapuntal sounds and smells

and the traffic rounding the bayside Contour. This intersensory perceptual process gives shape and meaning to place: The researcher, like the inhabitants, is caught in the dialectic of what is hidden and revealed (Feld 2005).

Another mural decorates the wall closing off the adjacent fenced-in area: a large black line drawing of an animal-headed humanoid with prominent fingers and toes enlarged with supersize nails and a partially obscured red inscription including the words “art by RCA” that is linked to the figure through a repetition of red swirly background elements, which I did not notice until I enlarged the photo digitally. Returning to and enlarging a photo of the bica at Taboão, I discover that the same swirly elements relieve the rubbled gloom of that place; there the swirls form a simple blue chain around the arch and the inscription is too worn to read. So although the murals’ figures, like the surrounding urban “text” read and sensed by walkers of any city, elude definitive legibility (de Certeau 1988: 93–96), the repetition of forms connects water sites. One bica has been allowed to flow, and the other has been choked to death, but the discursive current of graffiti charges the space between with the creative energy of those whom redevelopment cannot subdue with total confidence.

Inconclusive Horizons

Fantasy conceals an antagonistic split, a traumatic kernel in the symbolic order (Žižec 1989: 123, 133, 169). . . . [T]he traumatic element is that the good life—with its bounteous material, physical, psychical, and political joys, its many rights and privileges, its tidiness and orderliness, its status as a thing of desire and aspiration—is founded on the exclusion of a multitude consigned to something less, a basic life without what makes a good life sweet.

—MARY D. FAN, “When Deterrence and Death Mitigation Fall Short”

As my research took me from port to port in Brazil and Argentina, I had a growing feeling that with the extension of services to the *many*, the forces of exclusion and environmental degradation intensify for the others—the people who survive without benefit of water and sanitation infrastructure as well the unprotected aquatic habitats that may or may not be incorporated into centralized systems.²⁹ Thus, in the very process of improving the lot of the majority, the nature of development success is such that—at least along everyday aquatic parameters—it can intensify the material and cultural forces of inequality and unsustainability bearing down on the poor and working classes. Their needs, with or without idealistic laws to the contrary, are always in progress, a goal on the agenda that is seldom reached. And thus, not only do people not have the benefit of basic services but the sources that they relied on before private taps were installed in homes and businesses are cut off, buried, or declared “probably unsafe” and given no protection from further contamination. Water should be considered a fundamentally contested locus in what David Harvey (2006:

110–111) calls “accumulation by dispossession,” a process that provokes an infinite variety of social struggles within the larger experience of uneven geographic development.³⁰

Antonio, Dona Pitú, Iza and her sister, and the unnamed people who still bathe and collect water at springs and bicas embody and embolden the hierarchies associated with mundane and monumental infrastructure. Views from the social and material underground and edges in Itapuã and the Comércio suggest the character and cultural implications of forgotten aspects of the ecology-infrastructure interface.

Coda: The Assassination of Antonio Conceição Reis

The Jewel of Itapuã, Lake of Abaeté, Had a Protector: Antonio Conceição Reis

Antonio's two most significant victories protected the lake from high-season festivities.¹ Using the lake as the stage for Salvador's festival cycle is a long-standing tradition, but when the city claimed the lake for a public park, it built the concrete platform, buildings, and water and sewage infrastructure for the House of Music, inviting the increased density of paying crowds. Bar-restaurant owners moved Carnaval right into a spot with an excellent lake view, intensifying environmental harm. For four years these merchants "tripled their income but never planted a tree."² Antonio confronted city officials (including a certain prominent person accruing wealth from the arrangement). He argued that the popular *festas* (with accompanying trampling of vegetation, strewn garbage, urination, and defecation) were unsustainable in this delicate freshwater lake and dune ecology. He also argued that the lake was too far from emergency services. The assaults, rapes, and killings that inevitably spike during festivities would be better managed if festivities occurred in the central plaza near the police and medical clinic. He was victorious. Then bar-restaurant owners moved New Year's celebrations (*Revellion*) to the lake, and Antonio fought the city once again, arguing that fireworks posed a hazard to vegetation and fish. (See Figure 10.)

Over time, Antonio received hundreds of death threats. Anonymous phone calls and notes were left outside his home: "*Voçe vai morrer*" (You will die). Vandals trashed Nativo's office and the little barraca selling gifts and educational materials to tourists many times. The vandals also urinated on folders with proposals, petitions, and letters to and from



Figure 10. Antonio Conceição Reis. Video still by C. Jason Dotson.

governmental representatives; overturned and busted furniture; and stole Meninos de Abaeté T-shirts and tourist gifts. The message was unambiguous: “*Você vai morrer.*” Death threats continued during the period we worked together (November 2006–March 2007). He was not alone. All local leaders who defended Itapuã community interests accumulated death threats (Brito 2007). With respect to his fight to save the lake, he felt he was “an ant fighting the giant.” (The giant, I surmise, refers to an amorphous yet distinctively peopled transnational, public-private network of partnerships in tourism, industrial, and real estate sectors that exploit Itapuã’s territories and resources.) But even tireless ants need other ants to shift ground. And though the names of his fellow NGO members and others concerned for Itapuã’s waterscapes appeared on the official file of letters and petitions in plastic protectors he carried around in a loose-leaf notebook, in fact he was the only one fighting the good fight day in, day out at the lake—he and the seventeen boys and girls, the Meninos de Abaeté. He recruited them off the streets; many lived in houses made of sticks and mud. He trained and supervised them in lake and dune ecology, folklore, public speaking, and daylight surveillance tactics. Most importantly, he taught the children to sense this waterscape as precious treasure, inheritance to enjoy and watch over. In the process, he gave the children a vision of alternative futures for themselves and for Bahia. If I had to choose a totemic image of Antonio, it would not be the humble ant but the proud lion who strategizes on the run. I was in Buenos Aires at his life’s end; the account that follows is based on newspaper and TV reports.

On July 9, 2007, Antonio may or may not have decided to testify in the scheduled hearing of a case he had brought against the civil police. Six months or so before, police had invaded and ransacked his house in front of his wife and two adolescent daughters in a putative search for drugs or drug traffickers. On the day of reckoning, according to neighbors, at about seven o’clock he dropped off his wheelchair-bound daughter at school as he did every weekday morning and retraced his steps toward home, in the Garden of Abaeté neighborhood. As he crossed in front of a neighbor’s garage door, pistol-wielding, masked men jumped out of a silver

car and shot him. He dropped to the ground. They beat him and fired several more rounds into his head and chest before shoving his body into the car's trunk and driving away. Observers called the central police phone line. A team of Twelfth District civil police arrived. According to Antonio's mother and brother-in-law, the police found pieces of Antonio's brain and teeth among the fourteen bullet casings, .380 and .40 calibers, of the type used exclusively by police. Rather than following standard procedure for protecting evidence, police ordered the crime scene cleaned up as they removed teeth and bullet casings.³

Investigators soon found the silver car's scorched hull, a Ford Escort, near a private eco-park (Recanto Ecológico Sucupira) in the industrial district of Camaçari. Although everyone knew it had to be Antonio's bullet-ridden, broken-ribbed, burned-beyond-recognition corpse in the trunk, the police (Twenty-Sixth District) requested DNA testing to confirm the match between cadaver and body matter found at the shooting scene, delaying the funeral until July 17 (Brandão 2007; Brito 2007: n141). Because of the official implication of the police in this and other assassinations, the case went to the Group to Repress Crimes of Extermination (GERCE, Grupo de Repressão a Crimes de Extermínio), the state judicial police squad that investigates death-squad activity. It also went to the Public Ministry (MP) of the state, which, in the month following Antonio's death, established a human rights council (*o conselho de proteção aos direitos humanos*) to more effectively follow cases of violent death, torture, and death-squad activities (Brayton 2007).⁴ And so the wheels of justice turned.

Killing Antonio could hasten the demise of Lagoa de Abaeté and effectively ensure that the diminishment of nature proceed apace. Without his protection aquatic and dune life as we know it will probably be ended by the rollicking crowds, merchant moguls, and their political allies in the not too distant future—unless others step forward, en masse. His death did not cause everyone to cower, however. Six days after Antonio's assassination, on July 15, about three hundred people, including family, NGO representatives, local residents, and authorities, dressed in white with black armbands, summoned the courage to march for peace. The marchers performed a brave and peaceful public protest. Some had undoubtedly been within hearing distance of the pistol shots that rang out in the early morning air on July 9 in the Garden of Abaeté. Many were swiftly apprised of details of the assassination as they percolated through person-to-person conversation and mass media, spreading alarm through Salvador and beyond. The protest of the assassination of the defender of the lake unfolded into a larger protest against the endemic violence that continues to shake the community, day in and day out (two homicides a day in Salvador by Antonio's estimate, one preceding his that very morning in Itapuã).⁵ The people marched along the beach road, the same path Antonio and the Meninos took in the lavagem procession the previous February, eventually reaching Sereia. On this day, a white cloth stained red covered the mermaid

sculpture to symbolize the spilled blood of a community famous no longer for tranquility.⁶

For three years, the police made no apparent progress in the case.⁷ On the third anniversary of his death, Eleine Reis, his widow, led another protest march that culminated in a symbolic embrace on the Lagoa de Abaeté shoreline. One week later, on July 16, 2010, the police announced that they had two of his four killers in custody: narco-traffickers from the Baixa da Soronha neighborhood.⁸ The alleged motive for assassination was that the traffickers thought Antonio was assisting in a government attempt to control the drug trade. According to the police's representation of the confessions, one day the narco-traffickers saw Antonio walking in their neighborhood with a team of government agents accompanied by armed escort. (The agents were infrastructure engineers or planners. I would guess that Antonio was interested in having a part in designing the infrastructure for the Baixa, which as a uniquely low-lying neighborhood in Itapuã, still had enough underground water to support the area's last dende palm stand.) Two guns, found along with a cache of drugs and a little account book, would be sent for ballistics testing, police said.

The arrested characters from Baixa da Soronha are probably among those known well to the Meninos de Abaeté, who though children, have a good grasp of deception in police procedure as well as the local drug trade (see Chapter 3). From my interviews with Antonio, I think that while he was no friend of the drug dealers, he was likely to have negotiated a pragmatic truce with them. They were unlikely to be so mistaken about his mission in any case. It is more likely that the police wanted the politically troublesome case off their docket and took the opportunity to put forth these undesirables as credible suspects. I am left with the same questions as blogger Noel Tavares, the only voice on the Internet that publicly addresses the arrest: "All that is left to know is if they were really involved in the crime. Ah, but I'd like to leave [you with] one question: who ordered the killing of Antonio Conceição?"⁹

The assassination of activists perpetuates the assassination of the environments they dedicate their lives to protect. The state's complicity in the crime itself or in the lack of justice that follows is an expected extension of its agents' ecologically unsustainable political and economic interests.

It would be an illusion to expect that the state, without deep alterations in the basis of its political organization, would interrupt the practice of illegitimate violence that efficiently collaborates for its sustenance. (Pinheiro 1981: 54, cited in Caldeira 2000: 155)

Antonio's assassination breaks through the mundane habits of survival on which community members rely, provoking public reaction to the rule of law being both in peril and perilous. In the event of extrajudicial execution, the law simultaneously manifests as figures (police as alleged perpetrators,

enforcers, and investigators), justice institutions (architecture, social organization, and procedural codes), and a cultural repertoire and repository of ideals, schemas, and aspirations. With such a diffuse and contradictory web of meaning, the law is a slippery, undependable abstraction that materializes unevenly and, for those who seek justice, is difficult to approach or depend on.

Crime can seem an almost clarifying force in the face of the law because it tends to bind to singular events that condense and dramatize situations and forces, events that activate specific codes and institutional channels. Yet crime extends its web of meaning beyond the strictly legal and into other social and cultural arenas. Crime can be socially productive for not only the criminals but those who share the experience of witness and its aftermath. Violent criminal acts demarcate those unworthy of *confianza*, of trust. But demarcations can be fuzzy. For example, as I learned through my experience cowitnessing a knife assault with the beach-shack owner Gloria, in whose area police protection is nil, beach thieves can coerce feelings of fear, hopelessness, complicity, and even friendship among witnesses (Kane 2010b). And one can almost feel the anxiety coursing through a community coping with a Janus-faced police, where one can discern no differentiation between police and bandit. Crime thus exceeds the event, spreading through society; its analysis takes us right back around to the law being in peril and perilous. Power steps forward as the vital force that circulates through the figures, institutions, and disciplinary practices of both crime and law. Seized, relinquished, demanded, retrieved, apportioned, and delivered, power is simultaneously exercised and felt by people (Foucault 1980: 98). Antonio seized the power that democracy seemed to offer and gave it to the children to save the lake; his executioners stole it back. The marchers' protest signals that the struggle lives still.

The dynamics of crime-scene witness spin off in distinct ways. In beach assaults, thieves must manage unintended consequences such as witnesses. Unlike beach robbers, Antonio's killers aimed beyond their target's body or belongings; they aimed for the community's body and its soul. After all, producing witness is the whole point of terror (Kane 2012a). The pistol-wielding men with covered heads and the shadowy figures of those who sent and presumably paid them coerce communities into passivity and hopelessness with impunity. The courageous who marched on July 15 did so in the face of terrorists who, like the KKK in the nineteenth and twentieth centuries in the United States, may for all we know be so-called pillars of the community. These homicidal maniacs whom we cannot name and their masked mercenary squad are no ordinary beach- and dune-scrabbling banditos, though they share and shape the same harsh maritime habitat and culture.

Comparisons between Antonio's fate and the assassinations of Amazon rainforest activists Chico Mendes in 1988 and Sister Dorothy Stang in 2005 appeared in a newspaper (Brito 2007).¹⁰ Like them, Antonio knew the risks of environmental activism. Like them, he offered his body as a

symbolic battleground for those who profit from and those who wish to prevent habitat destruction. Yet Antonio was no cause célèbre, and small urban coastal waterscapes like Lagoa de Abaeté are for the most part beneath the attention of international environmental movements, which tactically focus on big forests and rivers, charismatic sea creatures, and disastrous spills and explosions. Consider though, the bit-by-bit destruction of the world's water, one small technical travesty or one ill-conceived routine at a time: Accommodation to the status quo leads to global water crisis. The assassination of one man, one lake, trumpets thousands of occurrences of violence sweeping across and beyond Brazil against all people and water places.

II

Buenos Aires, Argentina

To Buenos Aires

PILOTS FOLLOW THE COAST, flying this ethnographic nomad from Salvador to São Paulo and then on to Buenos Aires,¹ where fieldwork begins anew in March 2007; this political ecology of water enters its second arc. Salvador's unforgivable violence recedes except for zigzagging Internet communiqués. In July, news of Antonio's assassination would pierce the cozy apartment in Palermo Zoo, but everyday life was already elsewhere.

Intercity Commonalities

Commonalities provide a framework for regional intercity comparisons.

Blessed with bounteous freshwater, contemporary inhabitants of Buenos Aires, like those of Salvador, exhibit an understandable if oft-destructive extravagance toward water in all its forms. The ancestors of many if not most of the people living in both cities are not descendants of original peoples. Most came by ship from Europe as adventurers, missionaries, immigrants, anarchists, technical experts, and investors or from Africa, kidnapped and forced into slavery. Both Buenos Aires and Salvador were founded in the early 1500s and have marched in and out of step with globalization ever since. After federal legislation of the 1990s, both cities privatized and upgraded their ports to accommodate container shipping and all the associated multimodal transport and telecommunications technologies that boost transport efficiencies and corporate profitability. In the oldest, most central parts of the cities, beside the unused and derelict warehouses ripe for revitalization, new port zones were erected. Everything in the zones is

modular: cement platforms and moving steel assemblages scaled for easy, robotically assisted coupling and decoupling in tandem with circulating information and currencies.

Out on the verdant coastline, Salvador and Buenos Aires experience states of aquatic abundance and pollution under the rubric of harmonized legal traditions. In both cities, decorative fountains, humble taps, and grandiose waterfront monuments draw on the evocative power of water to make the state legible, the nation real. In the late 1800s both cities built European-financed centralized water, sewage, and drainage infrastructure that was mostly modeled on British infrastructure (for Buenos Aires, see Chapter 5). In the 1990s privatization wave, both ceded aspects of water management to multinational corporations, at least for a time, to better or worse effect. At the moment, Brazil's economy appears in the midst of a boom, after facing a currency crisis in 1999; Argentina faced a currency crisis between 2001 and 2002 that led to governmental collapse and slow recovery. On the national level, both cities are part of Mercosur (in Portuguese, Mercosul), a trade agreement of four contiguous nations (including Uruguay and Paraguay), paradoxically divided and united by its rivers. Commodities are transshipped to, from, and between Mercosur's cities and interior provinces through the Paraná-Paraguay inland waterway and along the ocean coast (see Figure 1). Increasing domination of genetically modified soy production for cattle feed and biofuel in these export economies is undoubtedly a boon to some and a crisis to others. For example, the recent expansion of the genetically modified soy of Archer Daniels Midland, Bunge, Cargill, and Monsanto into farmlands accessible to the inland waterways has led to increasing pesticide and herbicide contamination, expropriation of small-farmer land holdings, popular uprising, and violent oppression, including assassination of campesino leaders (Tana 2010). And thus the rubric of harmonized legal traditions brings little social harmony.

The most recent national constitutions of Argentina and Brazil explicitly protect water rights as human rights, defined in terms of access to potable water and healthy habitats. Indeed, defining water rights and environmental protection in the constitution lends form and voice to the forces of democracy that triumphed over the most recent phase of military dictatorships, supported by the United States. These rights and protections potentially serve as an armature for social and ecological transformation; constitutional ideals tend to wish all things for all people. However, the full force of law, when wielded in practice, and pressure from lending institutions such as the World Bank and International Monetary Fund cause economic models to be prioritized, which means progress and development for some, hope and suffering for most. Centralization of wealth and power, founded on a faux-democratic process of decentralizing responsibilities without allocating financial means to fulfill them, leads to mandates that are susceptible to manipulation and obliteration and have mixed, often negative effects. In short, the decoupling of constitutional ideals

from implementation and enforcement threatens the waters in both cities (though more so in Buenos Aires than in Salvador).²

That Buenos Aires has over four times the population of Salvador is central to any comparative understanding of water ecology and infrastructure. The rivers cutting through the provincial and municipal territory of Greater Buenos Aires first encounter the conurbation where thousands of unregulated industries and irregular housing settlements produce a toxic stew of chemical and sewage waste, a pollution source great in intensity and expanse. In addition, the economic crises were accompanied by a relative lack of investment in infrastructure. Buenos Aires had no internationally financed project with the scope of Bahia Azul. Its location at the mouth of the Paraná-Paraguay Waterway, at the edge of the delta and atop the Puelche aquifer, gives strategic significance to Buenos Aires, capital of Argentina, as not only a shipping gateway to the Mercosur countries but also a political and jurisdictional center and thus a steward of one of the world's most important sources of water.

Sampling the Porteño Mix

Everyday life in Buenos Aires is radically different in almost every way from Salvador's, a move from a sea port to a river port. City dwellers change language from Portuguese to Spanish, and my skills are slow to catch up. Tropical heat gives way to autumn chill, and in July the first snowfall since 1918 surprises everyone. Perfectly ripe papayas and mangoes and coconut milk retreat in the face of apples, pears, and plums; the aromas of dende oil and beer rising from Cira's acarajé outdoor stand are replaced by the aromas of pizza and fine wines inside cozy cafés and restaurants. Tango usurps samba as the iconic national dance (at least for elders and foreigners). A lively jazz scene appears. The currency switches from the Brazilian real, trading at two to the U.S. dollar, to the Argentine peso, trading at three, making Buenos Aires's luxuries incredibly affordable. Beach-side tempos exalting Afro-Brazilian hybridity in striking string bikinis are replaced by cosmopolitan sophistication and a Latin American fusion of Paris, Rome, or Madrid aesthetic, where espresso is accompanied by delicious, dainty finger cookies placed just so on filigreed napkins. Local bookstores display choice collections of literature and photography, and Argentines seem to have a penchant for delving into the esoteric, from poetry readings to cinema to psychoanalysis, inventing hybrid forms like *psicotango* along the way. From the strolling rather-light-skinned folk in designer clothes to the bent-over working families combing nightly through their bagged garbage, the fault lines of race, class, and gender could still be read in the patterns of everyday life. Overrun with private security, neighborhoods' threat levels were low even in those located not so far from the deprivation in shantytowns, called *villas* instead of favelas.³ Palermo Zoo, the middle-class neighborhood that becomes my temporary home, feels safe enough to stroll in and enjoy the nightlife at any hour. Not

to say that Greater Buenos Aires does not suffer fear of violent crime, but fear, and incidents, are mapped and remembered differently.⁴ With prominent exceptions, Salvador's dramatic juxtaposition of extreme wealth and poverty does not cut across center-city neighborhoods. Unlike neighbors in Salvador, my neighbors here are not worried that they would be jumped while about to enter the front doors of their apartment buildings. They channel their fear of crime into specific habits and association, for example, a neighbor admonishes me for hailing a taxi on the street rather than calling a reputable taxi company, as incidents of kidnapping, rape, and robbery are part of her personal experience repertoire. Fear of crime is also projected onto the current generation of immigrants (Guano 2003).

Missing Infrastructure and the Fantasy State

Dependent on centralized infrastructure, urban dwellers everywhere cede control over water and corresponding territories to the state (or the state cedes to multinational corporations). In Buenos Aires, where the infrastructure is plagued by gaps and failures, neighborhood water activists struggle to get appropriate government agencies to fulfill basic responsibilities in particular sites and processes: a sewage plant, a water pipe, garbage collection, and flood-prevention drains. Their demands draw legitimacy from law's recognition of biology: the need for and the right to the natural resource essential to healthy lives. Their sociopolitical struggle implies a belief in the power of the state, via its various governmental bureaucracies, to provide for the people. When the state fulfills its infrastructural obligations, it manifests and justifies the people's belief—that is, the state becomes legitimate in its real relationship to the people. Thus, whether or not they are fulfilled, mundane, practical demands for infrastructure symbolically realize state power.⁵

Indeed, many states are apparently incapable of constructing and maintaining comprehensive infrastructure in megacities; instead, they limp along providing standard services only for politically and economically core, elite, and middle-class neighborhoods. Thus, while infrastructure strategically performs state or corporate power in public space (Lefebvre 1991: 150–152), it simultaneously reproduces socioeconomic inequality and environmental injustice (Swyngedouw 2004). A villa may have cable TV service and fifty channels or more but no running water and no sewage connection (a fact pointed out to me in many a conversation in Buenos Aires), while wealthier streets are replete with the tinkling of beautiful fountains running with industrialized water outside air-conditioned theaters, restaurants, and boutiques. In this sense, activists' belief that democratic states will overcome the terrible fact that the good life of the few is based on exclusion of the many is a fantasy that in Slavoj Žižek's words "obfuscates the true horror of a situation" (Žižek 1997: 6). But what else can we do but believe in the promise of democratic states?

5

Water History, Water Activism

*Stretching out on the banks of a broad, lonely river,
the city has turned its back to the water and prefers
[it] to go on spilling out over the bewildered pam-
pas, where the landscape copies itself, endlessly.*

—TOMÁS ELOY MARTÍNEZ, *Santa Evita*

Globalization in the Holocene

Drifting continental plates collided, causing a linear eruption of underwater island-making volcanoes. Sediment from the land sifted into the aquatic spaces between the islands, joining them and forming a land bridge, the Isthmus of Panama, between North and South America that divided the Pacific and the Atlantic Oceans and their currents. The earth's Holocene epoch began during the sedimentation process, about 11,800 years ago; glaciers melted, and large woolly mammals became extinct (*Funk and Wagnalls New Encyclopedia* 2006). About the same time, the Paraná River began migrating toward its alluvial plain and over the next seven thousand years swelled to such proportions that it pushed out the marine waters of an ancient gulf, creating the Río de la Plata, the Plate River. This geohydrological transformation has been deciphered in beach deposits, marine sediments, and tidal channels on La Plata's floor (Oldani 1994). Aboriginal peoples met Europeans for the first time in the early sixteenth century, when fourteen Spanish vessels sailed into what the scribes called the Sweet Sea. The surface area of this ancient gulf now covers more than three million square kilometers. Once formed, it was shaped by four thousand years of sediments brought in by Atlantic Ocean tides and some of the world's largest freshwater rivers (the Paraná and the Plate and also the Paraguay and Uruguay Rivers). The Paraná alone discharges more than sixteen thousand cubic meters of water per second and runs through a depression tens of kilometers

wide. With very little slope and a depth of between two and six meters, it is a shallow sheet of water with a powerful hydraulic push (Oldani 1994).

In the most recent few thousand years, the Holocene has seen intercontinental civilizations that inhabit industrialized conglomerations, resulting in widespread species extinction and extravagantly networked human communication systems. In geologic terms, climate change has been happening forever. Globalization (or the human effect) is a recent phenomenon, and law and crime (as concepts and modes of action) are mere drops in La Plata's flowing waters.

Today, Buenos Aires sits on a vast plain with its back to the Plate River Basin. The flowing expanses of the Plate and Paraná have inspired the powerful myth that their waters will carry away and dissolve all detritus that enters them. This myth perpetuates behavior by institutions and the general populace that flies in the face of undeniable evidence that there is a limit to the amount of feces, plastic-laden garbage, and chemical and radioactive poisons that aquatic ecologies can absorb. The myth obscures a troubling reality: Rivers flow out to sea, but tides and winds flow rhythmically back. Sediment carried down in highland torrents clog navigation channels in the basin. Even with constant dredging, the main channel is so narrow that it can handle only three vessels at a time.

"Processes do not occur in space but define their own spatial frame," writes David Harvey (2006: 123). By extension, hydrogeological processes define their own spatial frames. This intuition leads me to think about the interweaving currents, both aquatic and discursive, that carry a city's environmental past into the human-water places of the present and how different temporal modalities define experience of water spaces. Multiple, co-occurring, but asynchronous processes transpire in radically different tempos and scales pertaining to geologic, biological, and sociopolitical phenomena and realms. The different temporal modalities, or timescapes, shape environmental crises (Adam 1998). As sump, flood, blood, fish habitat, political territory, or floating signifier, water and water talk intimately and expansively register the different modalities of a city's existence. Through the chronological segments in this chapter, I approach water as a motivating force in urban history and, following Gandy (2003: 22), read the history of Buenos Aires as a history of water.

Skullduggery of the Most Necessary Kind

Initial networking for field contacts is slow going the first couple of weeks in Buenos Aires, so I fill in the time prowling through bookstores and reading history in the National Library. I learn much about riverine territory, from conquest and colonization (the first crime wave) to independence, from historian Félix Luna's (2006) *A Short History of the Argentini*ans.

In the 1500s, the Spanish Crown coveted the gold and silver in the mountains of what are now Bolivia and Peru. The main route between the

Crown and its booty crossed the Isthmus of Panama from the Atlantic to the Pacific. Cities closer to the Andes route, like Córdoba, though in the hinterland now, were more significant in colonial times. Peripheral to the route, Buenos Aires was a neglected outpost at La Boca, “the Mouth,” where the Riachuelo River empties into La Plata (just south of the Paraná and the delta). The scraggly settlement of Buenos Aires was geographically unimportant and subjected to untenable trade restrictions imposed by the Spanish Crown for fear of pirates and privateers: Only registered ships in official convoys were allowed to provision the settlers. Because they were unwilling to live in constant hunger and desperation and were apparently lacking in the survival skills of original peoples,¹ the first porteños “acquired the habit of law dodging” (Luna 2006: 15–16). They ran bootlegging and smuggling operations, mostly with the Portuguese in Brazil. One could say that the colony’s testy relation with the first imperial forces foreshadows tensions with the contemporary International Monetary Fund and its unsupportable demands.

Tanned animal hides became Argentina’s first export industry in the 1600s. Financial partnerships backed hunting bands of cowboys with spears who attacked the “unclaimed” cattle herds roaming the pampas. Immobilizing them by nicking their shanks, the cowboys slit the animals’ throats, skinned them, and loaded the hides on huge wagons bound for export. After taking their fill, they left the meat, horns, and tallow to the dogs and rats (Luna 2006: 180). This ecological catastrophe is the basis for today’s important meat-packing industry.² It also established precedents for legal boundaries in the landscape. Streams that separated hunting territories would become jurisdictional divides between provinces (18–19).

By 1776 the Spanish Crown had come to appreciate the potential of inland waterways that connected the southern cone to the Atlantic and Pacific Oceans. In the name of the viceroyalty of La Plata, the Crown attempted to consolidate control of a breathtakingly vast territory. (See Plate River Basin in Figure 1.) For thirty-four years Buenos Aires benefited from the viceroyalty’s blessing in the form of free-trade regulations. Goods and immigrants from Europe flowed into the makeshift port in La Boca; wheat and whalers came from North America. With commerce came a middle class. But by 1810 the viceroyalty burst apart, along with the legal theory that the Crown’s power is God given (Luna 2006: 38–40). In Argentina the legal theory of sovereignty of the people fueled revolution. In May 1810, delegates from provincial cities met in Buenos Aires and ratified the decision to replace the viceroyalty with an assembly. The city accrued juridical importance in this historic moment—*Revolución de Mayo*—that liberated Spanish territory and shifted the emerging nation’s political center from the provinces to the coast. Buenos Aires was the hinterlands no more (50–52). As the viceroyalty receded, Bolivia, Paraguay, and Uruguay would also declare themselves sovereign states.

Exigencies and Interruptions: Toward the First Potable Water Infrastructure

While digging for archival knowledge on urban water systems, I discovered that the projects of the past, like today's, proceeded in fits and starts, instead of leaps and bounds, with a combination of public and private investment.³

From colonial settlement to megalopolis, the main source of drinking water for Buenos Aires has always been the unclean Río de la Plata. In the early days the filth came from ordinary garbage and animal corpses, around which *aguateros*, or water carriers, negotiated their horse-drawn carts, barrels, and buckets. With jingling bells, horses clomped through the streets carrying expensive water of questionable quality, which aguateros, nonetheless, boldly hawked: "Without me, there's no milk or wine!" (Prignano 2000: 28). Some households preferred wells, despite problems of turbidity and saltiness. Others collected rainwater in cisterns (*aljibes*) that was filtered by live turtles.

In 1815, five years after the May Revolution, the city's first census counted over fifty thousand souls, and Minister Rivadavia (later president) proposed a series of public works to assure future water security. By 1822 he had negotiated a loan from London's Baring Brothers, which was one of the world's largest banking institutions, to fund three projects: (1) port construction, (2) founding of new settlements on aboriginal lands to the port's south, and (3) infrastructure for running water and sewage drainage. Rivadavia hired a water engineer from Europe, Carlos Enrique Pellegrini, who in 1829 proposed the first plan to mechanically pump water from La Plata. The water would flow into an elevated tank with three filters (sieve, carbon dust, and pure river sand); the purified water would then be distributed to awaiting aguateros.

Alas, the original loan money got sucked into the war with Brazil, which, along with the decline of the viceroyalty, led to the formation of Uruguay. If a city water system was to be built, it would require an association of private investors. If the city agreed to pay an additional amount, the water company would add a pipe to the original plan. The pipe would feed a public fountain for cleaning and washing at home, irrigation, and city adornment. As in contemporary privatization schemes (like the ill-fated French consortium Aguas Argentina), the investors who backed the nineteenth-century water company were well aware of the project's speculative nature.

A government commission eventually reviewed and accepted the technical aspects of Pellegrini's plan but requested a more precise list of expenses. That was the end of that. Switching his attention from engineering to art, Pellegrini devoted himself instead to painting and portraiture. His artwork was apparently so successful that it catapulted him into high society (Luna 2006: 32). Over time, he proposed two more sets of plans, one for an artesian well and the other for a conversion of a brick cereal

mill into a water tower. He also designed an opera house, the first Teatro Colón, and raised a son who would become president.

As the enormous public health risks associated with the lack of clean water and sanitation systems in a growing urban population intensified, provincial and municipal governments continued to squabble over who had responsibility. Such jurisdictional standoffs continue to cause infrastructural crisis today (see Chapter 7). Various schemes were put forth but not constructed. For example, in 1853 an Englishman, Guillermo Davies, offered to bring water by steam a considerable distance, from the confluence in the delta, through pipes that would run under city pavement. In 1857 Juan Coghlan, an Irish railroad engineer with experience working on French drains and sewers, recommended himself to London's Baring Brothers, and to the city, as the man who would solve the problem, but Coghlan would have to wait until after the 1867 cholera epidemic that swept through the city. Anger at the government for failing to take hygienic measures, for scandals and frauds, led to violent demonstrations; still, no water system. As happens today, demonstrations against governmental failures define water crises but seldom lead to viable solutions in the near term. At the end of the devastating year of cholera, the provincial governor, Valentín Alsina, created the Commission for Running Water, Sewers, and Paving. Juan Coghlan must have impressed Governor Valentín because he chose him to head the commission. This time the Railroad of the West (*Ferrocarril del Oeste*) put up the loan, the motive having less to do with the common weal than with commerce: Their locomotives were being damaged by salty well water, and they needed clean freshwater.

And so in 1869 running water service arrived in the city center. Two cast-iron pipes were laid six hundred meters into the river and connected to three settling tanks of 20,000-cubic-meter capacity. One steam pump pulled the water from the river and another brought the purified water to an elevated iron tank with 2,700-cubic-meter capacity in a central location.⁴ From there, the water would be distributed through public taps located near hospitals, markets, other public institutions, and plazas, where most of the city's 180,000 souls would come with receptacles to collect it. Service began in 1870 and by 1871 reached 1,450 households. In 1933 a building in the neighborhood of Recoleta that housed an original suction pump was redesigned and became the home of the National Museum of Fine Arts (*Museo Nacional de Bellas Artes*).

The historical bond between engineering and aesthetics, between water infrastructure and architecture, has transnational roots that frequently rise to the surface of contemporary cities in the form of buildings and, even more prolifically, public fountains. For example, a precursor for Argentina's water architecture can be found in Simon Schama's (1995: 268–306) history of hydraulic virtuosity in Roman water theater of the fifteenth to seventeenth centuries. In the Piazza Navona in 1651 papal Rome, a personified Río de la Plata appears in "what was surely the greatest water spectacle in any urban space in Europe" (304). Beside the hypermasculine figures of



Figure 11. Paraná River personified, National Monument to the Flag, Rosario.

the ancient Danube, Nile, and Ganges, the figure of La Plata represents the New World in Gianlorenzo Bernini's Fountain of the Four Rivers: "a great synthesis of matter and spirit, nature and faith, pagan and Christian cults; the mysterious transmutation of one cosmology into another" (304).

Whatever dramatic changes were wrought by Argentina's May Revolution of 1810 and political independence from Europe, the people's new sovereign power was destined to reproduce the same hydraulic imagination: Together with the Atlantic Ocean, Río de la Plata again lies recumbent, its sculpted personification sprayed by the cool waters jetting up from the 1957 National Flag Memorial in the river port city of Rosario (see Figure 11). The relevance of Schama's (1995: 261) art historical research persists: The European and Western language of rivers continues to supply "imagery for the life and death of nations and empires and the fateful alternation between commerce and calamity."

Maintaining steady and clear water lines to the dwellings and enterprises of a city is a symbolic as well as a practical matter. In the first decades after Argentina's independence, pumping up, purifying, and distributing river water literally created, as it beautified, the state in urban form.

The Palace of Running Water

In the Palace of Running Water, an aura of royalty is bestowed on the people in the form of clean water. The following piece of water history is

drawn from an essay by Jorge D. Tartarini (n.d.), architect and director of the Museum in the Water Palace.⁵

Two yellow fever epidemics occurred between 1871 and 1879. Officials identified the danger to public health of relying on traditional drinking water tanks (*aljibes*) in homes. And with the heat of summer on them, the growing population's demands for water caused the Recoleta pumping station to quit for hours at a time. In 1879 a commission began considering a plan for a huge new tank tower and, to this end, fenced off a block in one of the city's most fashionable neighborhoods. The commission submitted a sanitation works plan to the Interior Ministry in 1884, and a law funding it passed the same year. Fully half the budget allocated for the "Large Service Storage Facility" underwrote the transformation of simple infrastructure into the veritable and venerable Palace of Running Water (Palacio de las Aguas Corrientes).

The opulence of the water architecture would be strange were it not part of the avalanche of Second Empire (1852–1870) architecture in an eclectic French Renaissance style. The cosmopolitan landscape was fueled by European immigration and facilitated by British railways and infrastructure; French culture and the then new agroexport model integrated the nation. The infrastructural palace was part of the 1880s generation of hospitals, schools, government facilities, congressional palaces, prisons, and parks. The visual luxuriousness of its exterior speaks to the state's desire to cultivate consciousness of water use. By linking the ordinarily plain, mostly underground functions to enhanced architectural aesthetics, the state literally envisions its power to provision (and withhold) water (see Figures 12 and 13).⁶

Inside, arrayed around a huge, dark central shaft, stand a dozen giant water tanks, supported by 180 large metal columns, spaced six meters apart. In contrast, the outer surface of the palace is festooned with glassy ceramics in multiple shapes and colors, terrace and garden details, stained glass windows, slate garrets, and pilasters. The original plan was to build its colorful exterior from the substance dug out of the nation's gut, grained marble mined in Argentine provinces, but the government authorized modification of the original plan and the use of terra cotta supplied by factories in London and Leeds, thus snubbing Argentine marble and all its tributaries of marble production. British factories fabricated symbols of the Argentine nation, including the special pieces showing the shields of the fourteen provinces and the federal capital that were added to the 170,000 ceramic pieces and 130,000 enameled bricks decorating the building and shipped by sea along with terra cotta moldings. All pieces were carefully coded for high-precision assembly. Eight cast iron caryatids (columns in the shape of draped female figures) supported the windows in the central facades. These were supplied by a Glasgow factory, a favorite supplier of young Latin American republics.

Today, the building is put to a different use. A museum, directed by the architect who is the source of the previous history, displays an unusual



Figure 12. Palace of Waters, exterior.

collection of plumbing fixtures, meters, and grates; architectural drawings and models of the building and its details; topographic maps and models of the river basins converging on Buenos Aires; posters and a tile mural representing the wonders of indoor plumbing and representing work and industry at the port; and large photographs of the construction of underground rivers and the laying of sewage pipes. A library there is home to books, photographs, and other materials related to the city's water history (where the librarian gave me Tartarini's essay, among other materials and research contacts). And downstairs, a bank of tellers sit collecting monthly fees in front of elegant stained glass windows, as if they had been plopped down into the streaming rays of some other century.

The Inheritance of Dictators

Perpetrators of environmental destruction are as dispersed among us as bypassed laws on the books. Scarier than polluted water, and more feasible for justice seekers, is the pursuit of unprosecuted criminals who have terrorized more specifically. In Greater Buenos Aires, human rights organizations, from the Grandmothers and Mothers of the Plaza de Mayo to HIJOS (Sons and Daughters for Identity and Justice against Oblivion and Silence), reveal the crimes against humanity committed by ex-military criminals.⁷ Even so, tracing the links between the last dictatorship and the



Figure 13. Palace of Waters, interior.

causes of environmental destruction may reveal an unexamined dimension of the criminals' power and impunity. Given the fundamental illegitimacy of criminal states, actually providing infrastructure would seem to be a low priority. Why should a not-so-rich criminal state build a Palace of Running Water to woo the public if they, like money-laundering mafias, can parasitize existing resources without restraint and redirect profit to fill

the coffers for what may appear to be legitimate futures? A short water-related chronological index indicates how things happened. The chronology is pulled from the comprehensive history of water published by the Fundación Metropolitana (2005):

Chronology of Infrastructure during and after the Last Dictatorship

- 1976** Argentine military junta wrests control from the democratic state.⁸
- 1977** All water and sewage infrastructure proposals are automatically denied.
- 1979** All public infrastructure work is completely paralyzed.
- 1980** Service provision is relegated to a gamut of agencies, a move incompatible with a unified infrastructural system.
- 1983** A deal that ended military rule results in a wide-scale mandate for privatization of national assets with direct involvement of the IMF and World Bank.
- 1981–1993** Investment in the water sector drops to a third of pre-1970 levels.
- 1988** Top executives of the public utility National Sanitation Works (OSN, Obras Sanitarias de la Nación) are threatened with penal sanctions if they do not stop dumping untreated sewage into La Plata. The threat is moot because the government's executive branch never authorized the financing for necessary sewage infrastructure: the Fourth Maximum Sewer Line, the Berazategui sewer plant, and an emissary that would take collected and treated effluent farther off the La Plata shoreline (the three infrastructure components referred to below as Berazategui complex).
- 1989** Reform of the State (Law 23.696) becomes law, which privatizes public services and infrastructure, including port facilities and water and sanitation. State of Economic Emergency is declared (Law 23.697) under President Menem.
- 1992** Value of Argentine peso is pegged to the U.S. dollar.
- 1993** OSN closes. Metropolitan water concession is awarded to a transnational corporation (Suez Lyonnaise) that uses the name of the nation, Aguas Argentina (AA), with contract revisions in 1994 and 1997. AA contracts to extend infrastructure and services to neighborhoods that lacked them and restore the Buenos Aires riverside, which includes building the Berazategui complex.⁹
- 1997** The federal regulating agency Tripartite Entity for Sanitation Construction and Services (ETOSS, Ente Tripartito de Obras y Servicios Sanitarios) fails to intervene in subsequent years as AA fails to fulfill contract obligations.
- 2001** Peso is devalued 270 percent; fixed exchange rate that was pegged to the U.S. dollar is abandoned. Public emergency is declared (Law

- 25.561) under President Duhalde. A mass uprising including the middle class and *piqueteros* (activists) ensues.
- 2006** AA is expelled, and the water sector is renationalized (Decree 303/06).¹⁰ Argentine Water and Sanitation (AySA, Agua y Saneamientos Argentinos) is created. An adequate Berazategui complex was never built.
- 2007** Determined neighborhood residents gather on World Water Day with twelve demands. Most prominently, the Plate River Forum demands construction of the long-delayed Berazategui complex. Another demand calls for the removal of two people at the top of the AySA hierarchy, because they had both worked for AA and were responsible for the state of hydraulic collapse left by AA.¹¹
-

Water and sanitation projects have been sidetracked by military and political emergencies from the time the government usurped the loan from Baring Brothers that would have paid for Pellegrini's first nineteenth-century water infrastructure; the money instead paid for the war with Brazil. In this sense, while all successive governing bodies in Buenos Aires have inherited a legacy including environmental crimes of state, the narrow chronological strip presented here shows that the military dictatorship of 1976–1983 was a model of aggressively negligent power. It is worth considering how the military dictatorship's silencing of the public sphere facilitated its shutdown of infrastructural investment and construction and contributed to the public health and environmental emergencies of today.

Extending the Contemporary Urban System by Tapping Underground Resources

The vast Puelche aquifer (*aquifero Puelche*) underlies Greater Buenos Aires. An essential component of hydrological cycles, it is an ancient water reserve in dynamic relation with its urbanized surface. It can be tapped—and contaminated—by piercing the earth's crust with simple wells.

In the 1950s the urban population exploded as industries on the city's outskirts attracted workers. They settled in nucleated settlements dispersed across the pampas. Distant from infrastructure of any kind, many dug shallow wells into the water table (*napa freática*) near septic tanks (*pozos negros*), accelerating processes of contamination.¹² Paved roads and parking lots blocked rainfall's replenishing power: As they spread, they further accelerated aquifer degradation; rather than slowly infiltrating the ground, water picks up contaminants on pavement and runs off directly into streams.

Near the end of my research in Buenos Aires, I had an opportunity to interview the hydrogeologist in charge of well construction at AySA. Her

explanation of the underground situation reaches back into geologic time and forward into the near future:¹³

For thousands of years rivers have deposited the sandy sediment on which Buenos Aires sits today. The sand holds water; when you dig a hole on a beach, you can see the sand holding water. Porous aquifers act like sponges—water comes out when you squeeze.¹⁴ The Pampeano aquifer is porous, composed of solids—sand grains—water, and air. To dig a proper well, one must go below the level with air, the aerated zone, to reach the level of water saturation, called the Puelche aquifer. Under the Pampeano lies lime and clay, finer sediments of less than one millimeter that come when the river is most energetic. The lime and clay layer separate the Pampeano aquifer from the semiconfined Puelche aquifer. Rain recharges the forty to sixty meters of Puelche sands but not if people draw it down with too many wells.

The water concession for the city of Buenos Aires captures and treats surface water from La Plata. This network of potable river water, although it serves the central areas of the city efficiently, has much less capacity, less pressure, and lower stored volumes than the Puelche aquifer, which underlies all of Greater Buenos Aires and beyond. Where there are no big water pipes delivering superficial water, people and government agencies turn to the aquifer. Indeed, before the French company [AA] bought the concession in Buenos Aires, . . . the state-run company Obras Sanitarias de la Nación—OSN—dug so many wells into the Puelche that they seriously lowered the water levels. Moreover, OSN's perforation reached only a very shallow level, two to twelve meters. When you exploit to this depth, because of the dynamics between levels, you affect the aquifer at thirty or even [down] to 50 meters . . . , which lowers the pressure throughout. We've got to regulate the balance of discharge and recharge so that we don't repeat the overexploitation that occurred in the past.

In addition to the problem of hydrological imbalance, overexploitation . . . induces contamination. If you lower the water levels in the aquifer, eventually contamination goes deeper. In many places, sand in the aquifers is naturally contaminated with arsenic. Sand is also artificially contaminated by urbanization, industry, agriculture, and cattle. The correct way to perforate the Puelche aquifer is to put a tube with a carbon filter inside a double-walled PVC pipe that reaches below the lime-clay layer. The PVC isolates the water flow from the Puelche as it rises through the contaminated sediment of the Pampeano to the surface.

With the concession now under public control once more [as AySA], wherever the levels of arsenic and other contaminants are below legal limits, proper well construction proceeds apace. At the

same time, new water pipe networks carrying treated surface water have extended into the conurbation, and the aquifers are filling once again.

Democracy and Degradation

Although its inner tanks stand empty, the ornate carapace of the palace still exerts symbolic power in the topography of water politics. At this point in the chapter, archival research gives way to participant observation during a march on World Water Day. The nineteenth and early twentieth centuries built on the promise of the industrial age; by late twentieth and early twenty-first centuries, the state in crisis takes the unambiguous form of water crisis.

The approximately three million people in Buenos Aires, the federal capital, are surrounded by about ten million in the conurbation, together forming Greater Buenos Aires. The vast infrastructure-deprived suburb sits in a plain sopping with industrial and sewage waste. As of 2000, connection to potable water and sewage networks is universal in the city of Buenos Aires, but in the conurbation, only 67 percent of the population is connected to the water network and 41 percent to the sewage network (Fundación Metropolitana 2005: 8). In addition to the pollution produced by the city and the conurbation itself, pollution flows down from two river basins that converge as they reach La Plata. In these basins, the two major tributaries that hold the city in their embrace, the Riachuelo and Reconquista Rivers are listed among the ten dirtiest in the world (Blacksmith Institute 2007).

In addition to the fraught problem of who should run the metropolitan water concession (which has variously been in the hands of public, private, and public companies over the last twenty years), other worrying questions remain. For example, is it even possible to extend the central city pipe network and add sufficient numbers of supplementary wells to service hundreds of conurbation neighborhoods? How viable are the municipal systems that must support water and sanitation in neighborhoods outside the water company's concession?¹⁵ Is it possible to allow unrestricted competing uses for river water: transport, hydroelectricity, tourism, real estate, agriculture, meat packing, tanning, textiles, petrochemicals, and everyone's sinks and toilets? And how should we think about the plants, animals, spirits, and histories that inhabited these aquatic places long before the rise of cities? And what about the global invasions, like the Asiatic stowaway mollusk *Limnoperna fortunei*, jumping ship, reproducing, and clogging underground pipe networks in cities along the La Plata and beyond?¹⁶ What about periodic flooding characteristic of urban coastal zones, upsetting daily life and playing havoc with aquatic-legal boundaries?

This ever-evolving existential crisis is managed by an expensive industrialized water-treatment process, consistently available to the middle and upper classes in the central areas of the city. For the rest, the patchwork

system of pipes and wells alleviate the lack of water and sanitation services.¹⁷ As a result, Greater Buenos Aires suffers numerous, uniquely complex, but intersecting water crises that appear to be simultaneously intractable and unbearable. While those who live more comfortably orient their attention elsewhere, residents in affected neighborhoods actively fight to reverse the local manifestations of trends that suggest decline across a broad spectrum.¹⁸

The more I observe the city's water politics, the more my admiration grows for Argentines' passion for self-organization at the neighborhood level. Through their attempts to hold the feet of governmental agents to the fire, from the mayors of little river towns to Supreme Court judges, the assemblies of neighbors, or forums, bring egalitarian politics to life. They are a powerful moral force pushing the government to make progress toward the fulfillment of their most *basic* responsibilities. Through fall and winter, I observe concerned citizens and other affected people come from Greater Buenos Aires, the delta, and provinces as far away as the Andean foothills. They converge in the nation's political and cultural center and march through the streets in protest, demonstrating, studying, informing, petitioning the court, and organizing for action. Members of the assemblies share hot, steaming, cup-size gourds of *maté* tea, sipped through metal straws during those frigid days. Ordinary people come together and follow a singular participatory impulse to bring their bodies and minds to—to exert their presence in—collective action (Pezzulo 2007). Thus they dedicate themselves in various ways to stopping water poisoning as a normal mode of business operation. Neighbors who passionately want to live beside healthy waters find allies in NGOs, universities, and government to carry out studies and write reports with scientific data augmented by legal argument. Together the people gave and continue to give voice to the communal impulse and stretch the social imagination toward new horizons of political possibility. Really, what is left for a scholar to do? The stories that follow show people shaking the tree of the law for its promised fruits.

Aguaviva World Water Day March from Congress to the Palace of Running Water

Fortuitously, not long after I arrive in Buenos Aires, World Water Day is about to take place. Via e-mail, a Boston friend sends me the link to a United Nations website with links to events around the world. The one Argentina link takes me to two women who run an NGO in the distant lands of Patagonia, and they connect me with others in Buenos Aires. That is how I find the event sponsored by Aguaviva and Friends of the Earth Argentina. And so online connections animated by people who live thousands of miles apart lead me right to local networks of water activists. I continue to use virtual information streams to do the logistics for participant observation and interviewing until I leave the field.

Lest We Be Accomplices

On the evening of March 22, Jason and I take the subway D line to the Callão stop and walk to the National Congress, the meeting point for a protest march that will trace the path between lawmakers and water providers.¹⁹ (See Figure 14.) As we approach, we hear and see a small gathering around a 1962 Mercedes-Benz bus, its snub nose painted red and “Joselo Schuap, Itinerant Musician” scrolled across the windshield’s brow. The bus, equipped with radio transmitter and sound equipment, is home and transport for an art collective that has been traveling around the country to inspire a movement to reclaim healthy waters and lands.²⁰ I would learn later that this march is one event along the troupe’s pilgrimage route from the headwaters of the Paraná, where Argentina, Brazil, and Paraguay converge, channeling the water’s great power into the transnational hydroelectric dam Itaipú. (See Figure 19 in Chapter 8.)

It is 1800 hours (6:00 P.M.), signaling the end of the workday for many, when activists start the event. Across the avenue, the central image of state power, the majestic columns and sweeping staircase of the Congress blankly imposes itself on the general cacophony. (An art nouveau building beside it counters its solemnity with a note of folly: a spire with a windmill.) Although a key site in the theatrics of both the state and its contesting social movements (Guano 2002), but for the small clutch of water activists, this evening’s Congress Plaza seems politically inert.

The activists mill around on the sidewalk beside the bus, several lanes of traffic on one side and a small monument and construction site on the other. A man’s amplified voice breaks through the sound barrier speaking urgently of rivers and effluents. He organizes sound equipment on the bus roof while young men and women wave flags of many colors around him. Fish and plants in happy country scenes swim mural-style on the bus sides, the windows overhung with two cloth banners: “AGUA BENDITA (BLESSED WATER)” in red and “AGUA VIVA (LIVE WATER)” and “(amigos.org.ar)” in light blue. A recorded guitar strum washes across the space, as a singer with a charismatic voice breaks into a provincial Argentine song. I would come to learn that musicians who sing and play songs that evoke national pride assume central roles in public water events, imbuing the repertoires of global activism with a regional cast and transforming knotty, mundane problems into characteristic Argentine tonalities of high tragedy.

As the line of orange-vested police, compliments of the state, line up along the wrought-iron fence that corrals the Congress building, the speaker comes down off the top of the bus and goes inside it while continuing to speak about water politics. He invites passersby to join the march, gives them the route, and talks about specific water and sanitation issues. Some thirty to fifty people congregate energetically, handing out information to people coming and going to subway and bus stops. A group of mostly older women sits on the stoop of the national monument folding flyers. Some



Figure 14. Performance Spaces for water politics in central Buenos Aires. Cartography based on *Buenos Aires: The Golden Map*, n.d. Decorative *fileteado* motifs based on illustrations by the artist Carlos Carboni in Genovese 2006: 36.

passersby stop and read the flyers and others put their heads down and politely traverse the politicized sidewalk stage. It is a multigenerational, racially neutral (light skin, dark hair, Euro-Argentine) group of representatives from various neighborhoods whose aquatic plights are explained in the printed materials. Photographers, videographers, and journalists are there; radio station H₂O transmits the scene from the bus. Wandering into the crowd, I take notes in a little book, writing down what I can observe and what people tell me about their situations. Jason is videotaping but does not speak Spanish, and so people decide he is a foreign journalist and introduce him to me, the anthropologist. Our two-person team works, and now I have both video and notes to help me re-present the event.

The man with the mike takes position in front of the national monument, the center of a small group. He faces Congress, turning his back to noisy underground utilities work and the converging perspective of buildings along Avenida de Mayo, which leads the eye to the horizon; the Pink House of the national government's executive branch and La Plata, though within a stone's throw, squat in the shadows of the impressive buildings along the Avenida de Mayo and thus cannot be seen from where we are

gathered. The speaker's topics are control and regulation, the desperate need for a sewage treatment plant, and Berazategui. One of the neighborhood's posters is taped to the windows of the little white car that brings up the rear of the procession:

We have to Stop the Contamination of La Plata:
close the sewage plant;
dismantle petrochemical plants on south dock;
control the industries that pollute streams [*arroyos*] in the river
basins.

On the bottom half is a drawing of a pipe curving up from the muck to attach directly to a water tap with the caption "You! Would you drink this water?" In front of the little white car, on a trailer hooked to the back of the bus, is the image in the drawing reappearing in the form of a giant sculpture: an in-your-face papier-mâché toilet hooked up to a faucet.²¹ On the back of the toilet seat, in small white letters on black background: "Forum in Defense of the Río de la Plata and its Ecosystem" (Foro en Defensa del Río de la Plata y Su Ecosistema, also known as the Plate River Forum). Attached to the sculpted tableau is a brightly colored photograph of river ecology. It mimics the shape of a wide-screen TV but projects a colored photographic image that TV viewers never actually see: a huge stain of urban sewage entering the wider waters. Explanatory text is written on the screen's faux frame.

As the sun lowers, the activists begin readying for the march toward the Water Palace, the symbolic center of the metropolitan water authority, AySA. Two women take hold of the corners of a long banner with a red circular logo of waves and stars in the corner: "FORUM FOR THE DEFENSE OF THE RÍO DE LA PLATA AND ITS ECOSYSTEM." (For them, the march actually started several miles away in their neighborhood of Quilmes, down coast.) A young man waves a "Friends of the Earth–Argentina" banner with a circular green logo. The man on the microphone is talking about AySA. The water company has plans but makes no guarantees, he reminds us, and social participation continues to be important. Between messages of this sort comes the refrain, "Water shouldn't be merchandise. We are water. We are moving water." Stencils on T-shirts spark conversations: an image of a skull and the words "Ceamse/Asasina/Catán." CEAMSE (Coordinación Ecológica Área Metropolitana Sociedad del Estado, or State Society for the Ecological Coordination of the Metropolitan Area) is the public company responsible for the vast open garbage pit poisoning their neighborhood of González Catán and the river. An image of an army tank points at viewers: "We Are Coming for Water"; "Enough with Barriers" (*Basta de Barradas*; about gay rights); "[Public] Works Already" (*Obras Ya*). Two young people have painted their faces with ripples of light blue. We start to walk, and the man with the mike continues speaking: "We are water, we are moving water." An old man with long hair and a beard and a young man with a

briefcase and mustache are each at either end of a big blue banner: "WATER IS FOR EVERYONE."

Amazingly, we have been permitted to occupy half a large avenue. About ten men and women police officers form a protective line between us and the steady car and bus traffic, which they halt for us as we move across. We are now 100 to 150 people. Drummers brighten the mood as they set the pace, echoing the whale procession of Itapuã in my mind; the sticks tap out a lively tempo, a girl walks behind beating a plastic bucket with her hands, and someone plays a tambourine.

It is dusk by the time we arrive at the Water Palace. The police officers array themselves in a tight line around the fenced corner of the cultural heritage site. We move past them to the ceremonial front of the building and array ourselves on the stone stairway and sidewalk. The man with the microphone has set up in the avenue next to the sidewalk. He says, "Today, more than ever, we are water, we declaim for pure water for the health of our children and grandchildren."

The drummer with the stenciled tank on his T-shirt keeps up a soft and steady beat. The man at the mike continues his stream of talk about, among other things, the controversial paper mill contested in Gualaguaychú and the hydroelectric dam project at Yacyretá, touching on the array of "ecological bestialities" galvanizing social action that I would come to learn about in the next five months (Federovisky 2007; see also Chapter 7). All of us, he tells us, should be part of this international day; we need to think for a little while about what is happening to the water so that the water shall live.

Winding up, he gives details of the troupe's upcoming itinerary and then emphasizes again the significance of this particular space as the previous headquarters of the ex-Aguas Argentina, reminding everyone of the continuing need to struggle. And more importantly, he encourages people to see how their recent success in ejecting AA shows how important it is for users to be involved in water governance so that "civil society can opine and participate at every level in all aspects of programming and control."

A hybrid song combining Spanish lyrics with a samba beat that was playing in the background begins to fade. The drummer with the stenciled tank on his T-shirt sends out a few drum rolls and the speaker approaches the mike again:

The United States has been saying there are terrorists. These terrorists are the ones messing with our natural resources. So here, Radio H₂O on tour, bring your cultural intervention [*atentado cultural*] to the city of Buenos Aires. *Que viva la música!*

A musician approaches the mike with a small guitar and harmonica; the bus and car traffic appear to move quietly in the lane behind him. It is Joselo Schuap, itinerant musician, strumming on this guitar the opening refrain from his folkloric water song.²²

Hello, beloved friends, . . . one, two, three . . .

Water . . .

Is vital for life

Clean and essential

[Stanza about the benefits of water.]

I want to say to all my fellow Argentines, if we don't take care of the water today, we will be accomplices, responsible for everything that our children will see in the generations to come. And so, I have come from Misiones.

Living on the littoral is not so bad,

Where we receive the gift of the river's sound.

The water that comes to the shore here is from La Plata, and so we are in the hands of this struggle.

Living on the littoral is not so bad,

Where we receive the gift of the river's sound.

Living on the littoral is not so bad.

It looks like it will never end.

[Stanza of spoken-word poetry about contaminated landscapes and traditions. The group starts clapping and continues until the end of the song.]

Living on the littoral is not so bad.

And water without sound

I don't want to drink.

Joselo punctuates the end of stanzas with a soft "Che," linking the song and the scene to the Argentine revolutionary and the larger struggle of Latin American peoples that he represents.²³

In the palace phase of the march, I sit on the steps having intense, informative conversations with activists from different neighborhoods, trying hard to overcome still rusty language skills and ambient noise. A woman named Snow tells me that for her water activism "all started when I got charged an extra ten pesos on my bill." I learn firsthand about how the people overthrew the private AA, returning it to the public in the form of AySA in 2006. (In brief: The people and the government claim that AA raised prices while leaving its infrastructure and service obligations unfulfilled. The company claims it made great improvements and that, moreover, because the contract was negotiated under the Menem government in 1993 when the peso was artificially tied to the dollar and because the peso was devalued to a third of its original value with the economic collapse, the original contract was no longer tenable.)²⁴

After the march, a woman I had met there whom I will call Susana continued to send me crucial notices that keyed me into the events important to neighborhood assemblies. I met with her once more, at which time she explained the dire situation in her neighborhood, Almirante Brown, where AA closed public and private wells, forcing residents to buy treated river water, disturbing the hydrological balance and causing flooding (see Kane

2012b). Argeo, a photographer, would put me in touch with a group of river people displaced by the Yacyretá hydroelectric dam (see Chapter 8). And thus the activists at the World Water Day march helped me get field-work going in this troubled and fascinating city.

Rituals and Crises

The Water Palace no longer functions as a reservoir for water nor is it the principal site of bureaucratic decision making. However, by virtue of its architectural aesthetics and historical precedent, it continues to function as the appropriate endpoint of a march that began in the symbolic center of contested state power, the Congress. The marchers, animated by visual and acoustic resources, manifest an ambivalent relationship to the state. While critical of continuing, criminal failures to protect the public health and challenging the legitimacy of AySA, which continues to avoid transparency, the marchers simultaneously appeal to the state's potential as an institutional democratic framework for building an ecologically sustainable city. While dramatizing the will of the Argentine people, the activists also petition for effectively functioning bureaucracies.

In short, the success of the evening's march is qualified. The most dedicated and able show up to perform water theater, but the crowd is small, dwarfed by the dramatic architectural scale of the Congress, the Water Palace, and knowledge of the kinds of decisions made by its occupants. It barely qualifies as a crowd at all. A vague feeling of loss seems to permeate the marchers' valiant efforts, of holding on to a fraying rope with a sense of purpose and hope that must not be abandoned.

Susana's analysis of the qualified success addresses two aspects of crowd formation in water politics of this type: The first pertains to the neighborhood people who are directly affected and who come together from different parts of the metropolitan area for collective action. People work long hours, Susana explains, and it is those people who earn the lowest wages who are most affected by water and sewage problems. For them, it is expensive to take a minibus into the city from the outskirts. She herself works at an Internet company in city center and has a two-and-a-half-hour, two-bus journey home ahead of her. The second pertains to the people who, either directly or through mass-mediated forms, are potentially touched enough by the action that they are at least informed, if not stimulated, to act politically. As for building a wider audience for water issues, one must remember that ever since the beginning of the country's collapse in 2000, every day on every city corner there has been a march about something.²⁵ Many people who live in the central city are simply bothered by the constant disruption of everyday street movement. Then too, water consciousness has a rhythm, waxing and waning with events. In 2000 and 2004, when protests against AA were at their highest pitch, the avenue was filled with demonstrators.

Unlike traditional ritual events that bring whole communities together to reenact social structure and antistructure (Turner 1974), contemporary rituals bring socially fragmented issue-oriented groups into exceedingly heterogeneous public spaces. And although they form coalitions, such as neighborhood associations with particular infrastructural needs and environmental NGOs coming together for World Water Day, this (probably untelevised) action is of infinitesimal importance to the megalopolis as a whole. Yet the march does adhere to the ritualized structure that makes it recognizably a manifestation of political struggle: It has a beginning, at which people gather and orient themselves; a middle, during which the march moves between two sites with political meaning; and an end, at which themes are dramatized and participants interact. The feeling of loss that I sense, of holding on, can be understood only if the temporal structure internal to the ritual itself is embedded into the longer history of crisis that shapes the relationship between humans and water in Greater Buenos Aires. Crisis, like the public expulsion of AA, mobilizes people by the thousands. Calendrical events, like the United Nations–inspired World Water Day, may mobilize only tens. Nevertheless, in addition to keeping the flame lighted, calendrical events provide entrée to new participants like me who are seeking ways to become involved. More importantly, such calendrical environmental processions give homage to the rivers and connect hydrogeology, politics, and spiritual recognition of all living beings.

The World Water Day activists generate an atmosphere meant to bring about social change. To do so, they borrow some carnivalesque visual, acoustic, and movement genres and cadences. But in contrast with the edgy dangerousness generated in crisis movements, the mild-tempered feeling-tone or style of the day's marchers is more consistent with reforming, not overturning, the existing social order, literally bringing *el pueblo*, the people, into the ongoing political-bureaucratic space of water management.

The Diver Graffito: An Invented Mythology

The Paraná is the widest river in the world (wider though not longer than even the Amazon).²⁶ Before flowing into La Plata, the Paraná divides into streams and marshes to form a Mississippi-size delta. As a result, the river cannot be seen in all its glory from Buenos Aires. But upstream in the inland port of Rosario, the “Chicago of Argentina,” the river landscape fully reveals itself. This is a water landscape one can believe in: Its vast inexorable flow lends credence to the myth of Paraná’s infinite powers of purification and replenishment.

Inside the Rosario Port Authority (ENAPRO, Ente Administrador Puerto Rosario) building in Rosario a museum with memorabilia celebrates the hundredth year since the 1905 inauguration. Amid the sculpted topographic wall maps and enlarged historical photos of infrastructure in the making are various examples of the shipping port accoutrements:

compasses, pilot wheels, gas lanterns for buoys, and brass throttles from Rotterdam.²⁷ I am momentarily intrigued by an old, long-empty suit of diving gear: a large, heavy, round metal helmet with four grated windows looking to the front, sides, and top that attaches to chest and back plates of metal armor, and a heavy canvas-type cloth that once covered the rest of the submersible body. Beside the suit sit ropes with a pulley and a pair of steel-toed boots with metal clip closures. In tandem with the photos, the empty diver suit reminds museum visitors of the underwater laborers of the past who set the pillars and massive breakwater stones into the river bottom.

I do not think much about the diving suit until later that day. Walking along in the warren of business district streets, uphill from the Port Museum and the National Flag Memorial with its reclining male river and ocean nudes, I see a ghostly white-paint stencil graffito of a nineteenth-century diver walking toward me (see Figure 15). Little bubbles trail from the helmet, eyes peering as he (or she?) steps forward out of an adobe-colored cement wall. Beneath the stenciled question, “Has anybody seen my bicycle?” an artist rendered the museum diving suit by creating a walker who bears a visual message from the river bottom to the city.²⁸

The message is profligately addressed to the political unconscious of passersby. Like anticapitalist junk mail, the graffito triggers a subtle projection into shared psychic formations of power and language. The immersed graffito is mythic to the extent that its effects exceed the intentions of any one artist (even the original stencil artist). In this sense, everywhere that artists paint them, mythic graffiti divers encode a fully realized political-artistic intention.

After Rosario I continue to see the diver: day-glow triplicates on a black sweatshirt hung in a San Telmo Sunday flea market stand.²⁹ In the National Library of all places, the diver appeared as part of an exhibit of a graphic novel, *El Eternauta: Memorias de un Navegante del Porvenir* (*El Eternauta: Memories from a Navigator from the Future*), about a nightmarish takeover of the library itself in a surreal Recoleta neighborhood with a slippery past and future (González et al. 2007). On the back cover of the free paper excerpt, which I brought home and tacked on my bulletin board, the white-suited diver walks out of the black deep.

Perhaps the brilliant and prolific Banksy (2006) jump-started the twentieth-century rash of Argentine stencil divers.³⁰ Nevertheless, even if diver images are circulating globally, artists create and audiences perceive messages in local historical and site-based context. I take the liberty of imagining the possibilities: a time-traveling diver bearing Holocene myths from sentient beach beings living when La Plata was still a saltwater gulf; or a few thousand of years later when the Paraná's freshwaters unmercifully altered the salt balance, killing and entombing all the creatures that now lie on La Plata's floor; or now, when humanity's toxic mixtures of cadmium, chromium, lead, and organic waste carry genetically modified, pharmaceutical, plastic, petroleum-laced, and hormonally unbalanced



Figure 15. Diver graffito on a street in commercial district above port, Rosario.

products and species into the currents. And finally, I cannot help but wonder what the diver would tell us of the drugged and naked bodies of young torture victims that military personnel threw from the sky to their unconscious deaths where La Plata ends and the ocean begins.³¹ But alas, I have let the diver graffito stray into fiction, freeing my interpretation to run amok with the historical facts (see also Kane 1996).

6

Iconic Bridges of La Boca and Madero (Dereliction as Opportunity)

It was in the nature of the river to be both turbulent and gentle; to be abundant at times and lean at others; to be greedy and to yield pleasure. And it would always be the nature of the river to remember the dead who lay buried beneath its surface.

—URSULA HEGI, *Stones from the River*

Puerto Madero, an internationally inspired model of waterfront development in Buenos Aires, is redolent with transnational corporate authority. La Boca, only one kilometer away, is in contrast a quixotic artistic attraction layered onto a stinking harbor scene. While each has a different relation to the seriously degraded and simplified riverine ecology in which it is embedded, both have played a significant historical role in the development of Buenos Aires as a major nexus of Latin American global trade. Neither, however, is central to the current container shipping industry located in Puerto Nuevo (“New Port”), just upstream from Puerto Madero. While these two waterfront locales share aquatic views and histories, the stark contrast between their “culturally coded geographies” (Shields 1991: 265) shows how development and degradation emerge differentially on a local stage.

In this chapter, I compare these two waterfront sites with the aim of challenging the binary logic that underpins so much of conventional development discourse. This logic accords value to contemporary revitalized waterfront developments that target the affluent and devalue degraded industrial waterfronts, where the working class, poor, immigrants, and transients live. I aim to convey the vitality that inhabits marginal spaces like La Boca and juxtapose it with the obsolescence that underwrites the putative success of Puerto Madero. A focus on the signature bridges in each of these sites illuminates how port city dwellers, the *porteños*, strive to shape, to flow with, and to fix their relation to the rivers that embrace and encumber urban experience.

Cultural studies scholar Beatriz Sarlo (2008: 44–45) argues that forces of globalization in Buenos Aires have created a “broken city.” She illustrates this with a photographic image of La Boca’s “industrial

iron bridge in ruins” paired with a textual assessment of Puerto Madero, whose newly developed space targeting the affluent she considers only nominally “public” because “although there is no interdiction, there is no reason [for the nonaffluent] to go there either.” I build on Sarlo’s impulse to compare the two waterfronts as part of the notion of a broken city.

In my analysis, fixities in urban waterfronts are material structures and sociocultural practices that define and shape flows (e.g., of rivers, people, vehicles, and information). Within this schema, large-scale infrastructure dramatizes relationships between engineered fixities and more natural aquatic flows. Captured water runs through canalized networks for drainage, potable water, and sewage, while bridges, shipping docks, and dredging machines transcend, deflect, and reshape rivers; urban aquatic ecology is a synthesis and an encounter between infrastructural and aquatic elements. Flows are multidirectional: rivers flow out to sea, and brackish tidal waters flow upstream, pooling and eddying in marshes and mangroves; people, goods, money, music, text, and images move and settle in diverse interlinking and layered channels, networks, and niches. Flows are unpredictable: storms overtake balmy weather, wars interrupt relative peace, crimes subvert institutional regulatory and decision-making mechanisms, and cancellations and robberies interrupt fieldwork. Thus, fixities and flows layer in and under the surface of earth and everyday life, creating productive tensions of differing magnitudes.

Two movable bridges, one in La Boca and one in Puerto Madero, encapsulate the changing and contested meaning of the waterfronts in these two neighborhoods within Buenos Aires. Although both were built for humans crossing aquatic divides, they differ in transport function, design, and social history. Subconsciously or consciously, these bridges, like many others traversing city waterways, also function culturally; people who use and key their sense of identity to them shape the dynamic balance of their aesthetic and engineering significance (Cleary 2007). Such icons distinguish themselves from their hundreds of mundane counterparts. Although people are less conscious of mundane bridges, they nevertheless involve a choice of river crossing that determines how people traverse urban and national topography (Cooper 2006). Contested meanings, functions, and civic responsibilities for the preservation of iconic bridges change dramatically over time. And in this sense, bridges can be catalysts for communication (Guth 2008). As with the relationship between the Brooklyn Bridge and New York City, the Puerto Madero and La Boca bridges are polyvocal icons.¹

I also characterize how the bridges, and the proliferation of artistic representations of the bridges, encapsulate struggles over the “asymmetrical fields of power” inhabiting waterfronts (Cresswell 2006: 220). In analyzing the significance of interpretive struggles over the bridges, I assert there is a perilous lack of connection between the everyday concerns of people using the waterfront and the water swirling under the bridges, the toxic lifeblood of the city.²

Nature in the Analytic Borderlands of Globalization

In the open, globalized cultural geography of Buenos Aires, porteños reinvent reflections of themselves, signaling life's tempo, style, and heritage. Parisian-style cafés and boulevards, pizza places, fashions in wool and leather, gaucho hats, and silver-edged cups for sharing hot *maté* tea materialize an Argentine public imaginary that dissolves as you cross the border into Brazil's interior. At the same time, intercontinental fiber-optic cables transport ever-new flows of information, subjecting and enticing both nations, even as resulting patterns of opportunity reinforce old obstacles and racialized inequalities. Such technological and informational interpolations have forever altered our understanding of spaces, places, and the transoceanic cultural flows that inform, disrupt, and remap local ways of being in the world (Castells 1996). The more scholars appreciate the dynamism afforded by *flows* (e.g., of models for investing and designing development projects of various kinds), the more imperative it has become to identify and characterize the *fixities* that govern content, direction, constraint, and apportionment of risks and benefits (Tsing 2004). Inequalities, provoked and reinforced by patterned routes and canalized flows, are central to "accumulation by dispossession" (Harvey 2006: 111), a process that provokes a variety of social struggles within the larger experience of uneven geographic development (Caldeira 2000).

In this scholarly paradigm, waterfronts should be considered as contested loci that dramatize and juxtapose land-sea realms. Historically, ocean space's meaning in modern discourses depended on a rhetorical contrast with land space: geopolitical and development discourses represented land as the paradigmatic space of state governance and economic activity, on the one hand, and ocean space as an undevelopable, anarchic marine void, on the other (Steinberg 2001). Waterfronts, situated at the confluence of ocean space and land space, mediate these spaces in site-specific ways, even though globalization influences the site-specific meaning of these spaces. By virtue of hypermobility, for example, multinational shipping operations may neutralize oceanic voids, inducing "space-time compression" (Harvey 1990). But to embed in the local, the global also operates outside the "still common conception of unitary space marked by a unitary time" (Sassen 2006: 383); the global also operates in spatiotemporal orders between and within the national. Saskia Sassen (2006: 382–383) calls these other (various, local) spatiotemporal orders "analytic borderlands" and argues that scholars need to make them legible, restoring "social thickness" to global processes, revealing the "lumpiness" of global dependence on material, facilities, infrastructures, and peoples.

By attending to the functional and aesthetic differentiation of waterfronts, my analysis deciphers various forms of global dependence on nature. For example, the colorful geometric aesthetic of Puerto Nuevo's container stacks is an unintended consequence of economic function, and the sleek glass and steel aesthetics of Madero's development is essential to

cash flow. Territorial waters are elemental in both Puerto Madero and La Boca yet act differently. Ships use water as a transport surface; this was the founding function of Madero. But Puerto Madero's space has been subject to "diversion" (*détournement*). Now water functions as a backdrop or stage, a sign that refers to nature and leisure, while cranes, hoisting cargo no longer, function as public sculpture (Lefebvre 2007). Nature appears as given, a preformed design element that poses solvable architectural and engineering challenges, such as how to get pedestrians across a canal. In this framework, the dynamism of coastal waters targeted for development, once controlled, can be aesthetically appreciated, and sold, as view, surface, or horizon. Fading from importance (or waiting in the analytic borderlands) are the invisible, unintended, and unpredictable processes and effects of the encounter between myriad life forms and landscape forms, organic and inorganic, upstream and downstream. Pedestrians pay scant attention to the disappearance of river fish or the reasons for the disappearance; who thinks about them until after they are gone?

In Madero, corporate dazzle obscures the negative effects and the specific dependencies of development on aquatic ecology. In yet-to-be-developed La Boca, nature is abject, the harbor bereft, and yet visual art flourishes. Perhaps this art is the effect of a conversion: "As nature becomes, by decree, to seem ever more barren, the individual inner human self becomes the postulated repository for all the qualities extracted from the world" (Evernden 1992: 86–87).

As long as they are not too obviously degraded, waterfronts can be developed, as in Madero, using the models of Baltimore or Boston (Hoyle, Pinder, and Husain 1988). Nature sells well when culture appears to contain it. But culture cannot contain nature: in all its elaborate diversity, culture emerges from nature. Indeed, culture derives its very potential for change from nature: "The natural does not limit the cultural; it provokes and incites the cultural by generating problems, questions, events that must be addressed and negotiated, symbolized, or left unrepresented" (Grosz 2005: 51). The unpredictability and dynamism of the riverine coastal environment is an unrelenting provocation against and within which urban waterfront cultures in Buenos Aires emerge and diverge. Nature's provocation is an existential premise that organizes the material structures and sociocultural practices defining and shaping the flows of everyday life.

Waterfront Nation

When Spanish colonizers first encountered the Plate River Basin they named it the Sweet Sea (*Mar Dulce*). In 1523 a prescient authority recognized that settlements should be established on higher sites with potable water nearby, not on floodplains. Except for locating near abundant freshwater, settlers almost thoroughly ignored his counsel (Defensor del Pueblo de la Nación 2007: 11–22). Two settlements were established beside a stream, the Riachuelo, in 1536 and 1580, on land that belonged to

Querandíes Indians. From the Riachuelo's mouth, Greater Buenos Aires spread, growing into Latin America's third-largest megalopolis. Today's La Boca neighborhood inhabits the original settlement site on the Riachuelo, which eventually became the southern jurisdictional boundary between Buenos Aires the federal capital and Buenos Aires the surrounding province. The Supreme Court of Argentina, in response to a denunciation by La Boca's Assembly of Neighbors, declared the state noncompliant with Article 41 of the national constitution, which decrees the right to a clean environment (see Federovisky 2007). In 2007 the Riachuelo was declared one of the world's Dirty Thirty, the most polluted places (Blacksmith Institute 2007). Despite this, it has remained a key urban crossing to and from the rural south since the sixteenth century.

A dark edge of contamination hugs the urban coast. It flows from industrialized and marginalized streams and riversides in the conurbation into the Reconquista River, which forms the boundary on the northern edge between city and province and is the Riachuelo's contaminated twin. The water-capture site for the city center—two shacks shading pumps and tanks—is 1.2 kilometers offshore (AySA 2007). At one walled-off end of the cavernous General San Martín water treatment plant, men sit watching video feeds of the intake site. The chief engineer explains that they also have surveillance boats trawling key aquatic interchanges, taking samples and carrying sniffing dogs on the lookout for approaching toxic flows. Water capture can be halted when necessary. The management of this mythic contradiction between freshness (and potability) and contamination focuses only on the visibility of the most major, irregular streams of contamination. Once captured and pumped to the station, the water is subject to expensive industrial-strength chemical treatment to meet international standards of potability (although many who can afford it drink bottled water from elsewhere). There are also centralized drainage and sewage systems, which collect and carry runoff and human waste into offshore currents.

As the Plate flows past the city, northwest to southeast, it carries pollution from the Reconquista. By the time its waters enter Puerto Madero's canals, however, the Plate's contamination is sufficiently diluted that it does not trigger unpleasant visual or olfactory sensations. But just around the bend from Madero, La Boca sits right in the stinking mouth of another tributary, the Riachuelo, and gets hit directly with the effluent of over three thousand factories that illegally dump waste and with sewage from the 55 percent of the river basin's inhabitants who lack connections to the centralized sewage infrastructure (Comité Ejecutor 2003). The myth and reality of the Plate's great cleansing power cannot help La Boca. However, La Boca hosts popular tourist attractions, despite the degraded status of its waterfront and its crowded tenements. In any case, the difference between innocuous and disgusting-looking water helps explain the swift redevelopment and promotion of Puerto Madero as an international tourist destination and elite residential and office complex, as well as the delayed

development of La Boca. Direct connections between the two waterfronts, such as legislative proposals to link them with a tourist train, have also been delayed.³ Comparison of the sites' potential for urban waterfront development has much to tell us about the fixities and flows of decay, capital investment, and cultural performance.

Puerto Madero

Puerto Madero is an example of how an obsolete shipping terrain can be converted into a profitable combination of restaurants, hotels, corporate headquarters, deluxe condos, and lofts. In this instance, the remake includes a yacht club, which highlights the way that the water surface continues to function as a central element in the area's revised design and operations. Puerto Madero's former function as a harbor, with its loading and unloading zone, gave way to a recreational panorama that draws affluent people to the relative spaciousness of its riverine infrastructure. In its new form, city boosters imagine the development itself as a node attracting global capital flows to Buenos Aires. Navigation nostalgia narrates pedestrians' romance with shipping history. Semicontaminated, brownish river waters are sufficiently contained and distanced by stonework to render any remaining whiff of pollution inoffensive.

Recognition of the need for the port that would become Madero grew as overseas trade expanded in the mid-nineteenth century.⁴ Between 1861 and 1882 a series of designs were proposed for the underdeveloped riverside area closest to the city center.⁵ All the proposals involved linking the future port to the old domestic port in the Riachuelo. Most notably, a design from a group led by engineer Luis Huergo proposed a solution of open and parallel inner harbors that would allow the port to grow northward along the coast. His group's basic design would eventually be adopted to build Puerto Nuevo in the early twentieth century, but not before Eduardo Madero got congressional and executive authorization for his closed design in 1882, despite strong criticism against it. Madero was "an important man involved in commercial and port activities, [and had] the support of [then president] General Roca."⁶ Construction of Madero's design began in 1887 and was completed in 1897. As Huergo had predicted and tried to prevent, Madero's closed design was doomed. The first ship entered on January 28, 1889, and by 1907, only eighteen years later, the national government officially declared the port inadequate to meet the sudden increase in vessel tonnage, from four to ten and then to twenty million metric tons.⁷

Puerto Madero spent most of the twentieth century without being designated an official shipping zone, although several proposals were put forth for integrating the wide area between the city center and the riverfront. Among the proposed designs is one by Le Corbusier, who toured the capitals of Latin America in 1929 and designed a plan for Puerto Madero during World War II. Le Corbusier sensed the port's great travesty of urban design, writing, "Oh! Buenos Aires has given its back to the river, never

sees it, and does not know it exists.”⁸ His correction involved demolishing Puerto Madero, creating a huge park connecting the central Plaza de Mayo to the river, and consolidating the coastal front as emblematic of Buenos Aires by building a causeway to an artificial island, on which would sit an avant-garde set of buildings forming the Financial District. The plan did not fly. It may have been not only the wrong moment but also the wrong idea. Porteños prefer, it seems, to orient toward the land, not the river, with its waves of mosquitoes in warm weather and winter’s bitter winds.

Madero’s revitalization would not begin until the 1990s, in the extravagant postdictatorship-privatization giveaway days spearheaded by Carlos Menem’s presidency. In 1989 the City of Buenos Aires, sharing authority with the national government, developed a strategic redevelopment plan. Inspired by the city hall of Barcelona, Spain, and in cooperation with Barcelona, Buenos Aires held a national design contest.⁹ Water, sewage, and drainage infrastructure were expanded, connecting new residential and commercial buildings to the main city systems (Busquets 1993).¹⁰ In an apparent concession to environmentalists, the plan designated the land between the piers and the Plate River, which was filled in the 1960s with sediments from channel dredging, as a nature reserve. The military dictatorship had used this section of the river’s edge as a dumping ground for toxic construction waste and even human remains, although the amount is uncertain. That the marsh had been established on top of what may be a toxic foundation has only recently received public attention. Legal challenges are just beginning.¹¹

Examining the resolutions put forth to the legislature regarding development reveals the struggle over what counts as culture and heritage in Madero. The three casinos that inhabited the port area during its official obsolescence were destroyed without fuss. In contrast, a giant silo, icon of Argentina’s standing as “the Granary of the World” (Larco 2006) remains.¹² A small community kitchen sits amid the splendor, the large sign atop it announcing, “We struggle for an Argentina where the dogs of the rich stop being better fed than the children of the poor.”

While expanses of water and sky afford a welcome respite from narrow city streets, contemporary urban architecture preserves the feeling of pedestrians walking inside their world, protected as if ships’ crews in harbor. Looking on a map, one can observe how Puerto Madero links city center and coast, but once visitors come into the waterfront development site, their experience focuses on a wide pedestrian enclosure composed of piers that face one another and that are separated by rectilinear segments of a diverted river. The fixities of steel and glass architecture, emboldened by repainted cranes, dance delightfully with the moving clouds on the water’s surface.

La Boca

At first glance, La Boca’s stretch of harbor has the feel of a European village, with Mondrian’s pallet of primary colors adorning tin house facings.

This style stems from the port's early nineteenth-century history. In its heyday, La Boca ("the Mouth") received boatloads of immigrants, many from Genoa, Italy, who settled in the adjacent neighborhood. During this period, when Puerto Madero was just a muddy riverfront through which water carriers (*aguateros*) came with their horses and buggies, wading through the garbage and dead animals to collect water for sale and distribution to city residents, La Boca had been developing its port and its potable water infrastructure. When the first city system for pumping and treating river water was brought on line in 1869, between the 1867 cholera and 1870 yellow fever epidemics, La Boca and adjacent Barracas were the only two neighborhoods outside the 960 blocks of the city center to be included in the system. The tenements (*coventillos*) that housed the Italian immigrants who arrived in the late nineteenth century now house the post-1960s generation of immigrants flowing in from Bolivia, Chile, Paraguay, and Uruguay (Sarlo 2008). As I find no record to suggest otherwise, I assume that tenement residents rely, at least in part, on the original infrastructure.

Currently, a flourishing plastic arts and café-restaurant scene enlivens the bygone transshipment port, where listless cargo ships tarry too long at the high cement piers. Not far beyond the tourist niche, someone collected chunks of floating garbage, which lie encircled in plastic nets; the decomposing scars lap beside rusting hulls awaiting removal. Paintings, bas-reliefs, and sculptures reside in creative tension with the effluents and detritus of an industrial past, provoking a tense, stinking, and compelling littoral aesthetic. The state occasionally presides with media fanfare over the scene of its criminal dysfunctionality, raising sunken ships only to let them sink again after the performance (Alberti 2007). Perhaps La Boca is being subjected to the practice of intentionally hiding waterscape treasures behind a semiotic curtain of garbage and disrepair, an example of what Ann Laura Stoler (2008: 192) describes as the debris of dispossession that joins "colonial pasts and imperial presence." Emanuela Guano (2003) analyzes the role of art in integrating the first immigrant generation, how art forms challenged primitive stereotypes thrust on them. She also argues that the artistic generation currently functions to distinguish Europeans from more recent South American immigrants. She poetically captures the mundane pervasiveness of inadequate infrastructure in her description of the neighborhood, depicting variations in the river's tangible effects:

Just ten minutes away from the presidential Plaza de Mayo and the Buenos Aires city center crowded with banks and upscale businesses, you will find yourself in a different world: a world of three-story Italianate buildings turned gray by smog and age; a world of strangely tall sidewalks built to protect the houses from the recurrent floods of the Riachuelo River; a world that will strive to sink you deep into your five senses. The first impression you get as you approach La Boca is that of its pungent smells: whiffs of

sewage and chemical waste exhale from the Riachuelo River, only moderately corrected by the scent of hot bread and pastry emanating from the local bakeries, or by the smell of fruit and vegetables displayed in front of the small grocery shops. Climb up and down the sidewalks surrounding each block, and you will find yourself splashing in the mud: puddles of brown Riachuelo water exude from cracks and crevices in the irregular plaster. Whenever the *sudestada* [southeasterly wind] blows, the Riachuelo rises to plague the neighborhood. Till now, no physical obstacle has been able to contain the floods: the river does not flow in from the *ribera* [riverside], people say. It gurgles directly into your house through the sewage system, and nothing can stop it. (Guano 2003: 360)

A rumor is circulating that La Boca may be slated for revitalization.¹³ Any harbor-front plan will meet great social and engineering obstacles, such as visual and olfactory evidence of continuing pollution, inadequate infrastructure, sunken ships, and moribund harbor operations.

Bridges and Flows

The metropolitan area of Buenos Aires sits within polluted aquatic flows; each waterfront neighborhood is subject to specific hydraulic geometries, industrial pressures, and infrastructural constraints. In this hydrogeography, the fixity *is* the flow, or better said, the existential problems and opportunities that the flows present do not disappear, though they may change in character and intensity. For example, one basic aspect of nature does not change: Prevailing currents move northwest to southeast, out with the flow of the river but back with the tides. These daily rhythms are not infrequently punctuated by *sudestadas*, a short-term hydrometeorological phenomenon that produces a southeasterly flow of wind and water and a riverine “hydraulic plug” preventing the normal drainage of the watercourses in the Plate River Estuary (Pizarro et. al. 2007). The history of La Boca is punctuated with southeasterlies that transformed the Riachuelo into terrifying rapids and swells, sinking buildings, bridges, houses, and ships.¹⁴ In contrast, Puerto Madero’s protected, closed harbor is relatively calm, enabling its contemporary transformation from dereliction to revitalization.

The bridges of La Boca and Puerto Madero are part of the porteño struggle to render riverine flows and their effects more predictable, adapting them to urban desires and identities. Encoding cultural and environmental histories, bridges are “technologies and technological visions” that rely on, and are limited by, the social fabric; bridges emerge from the interaction of social structure, ideology, and patterns of technological development (Kranakis 1997: 6). Like other technology, the bridge is “not merely the symbol of a social order that rewards some while punishing others; it is in a true sense an embodiment of that order” (Winner 1980: 127). Bridges

artfully shape and site materials of nature and, when functioning properly, express in their design and engineering the dynamics of forces in equilibrium (Pollalis 1999). But they may nevertheless symbolize human victory over nature (Trachtenberg 1979). Bridges overcome the riverine obstacles in a networked span of territory within the city and between city and hinterlands, hence their “inherent relational quality” (Cleary 2007: 26–27).

The Pendant Bridge as Icon of Technological Authenticity

For almost six centuries, to move between city and province, people had to cross the Riachuelo. Initially they crossed with rowboats and rafts, as they still do, and eventually via bridges by foot, car, and truck. Indeed, bridges were repeatedly built, destroyed by southeasterlies, rebuilt, and renamed. The pendant bridge is a central character on the waterfront stage in La Boca’s story. (See Figure 16.) As darkly vivid as a glamorous embrace of a couple dancing tango, its silhouette beautifully captures the unique character of place on an industrial scale. It is everything that the bridge spanning the canals in Puerto Madero is not. And the contrast between the whys and hows of their respective beauties helps us understand the power of *technological authenticity* at the heart of the struggle between creation and destruction in postindustrial urban landscapes. Irrespective of its foreign origin, the pendant bridge integrated the people of the city and province as they constructed the modern nation. It was part of real history, the people’s history, and its style represents pure function.

The structure that looks like a bridge was actually once a shuttle that carried people, merchandise, and vehicles over the riverbed. Hanging from an iron framework, a motorized system of cables and wheels pulled a wagon back and forth. Ordered from the manufacturer in 1908 and inaugurated in 1914, this engineering rarity is one of twenty built in the world. Its parts were forged in England and assembled at the river’s mouth. Benito Quinquela Martín immortalized the bridge in paintings of world renown, and many artists and photographers followed his lead. The bridge is the central image of La Boca, and through postcards, the Internet, and books it entered into the global imagination as an icon of Buenos Aires. In classically incorrigible La Boca style, the bridge’s claim to fame is that it is one of eight in the world left standing but the only one in disrepair (“El Transbordador” 2007). It stopped functioning in 1960, at which time it was replaced by a modern vehicular bridge. In 1990 the neighborhood association successfully protested against its demolition, preferring to let this giant sleep, “black and beautiful, strung over the stream that also awaits its opportunity.”

I suggest here that both the need to cross the river and the engineered response that enabled crossing created characteristic *coherences in cultural orientation* that orient the production and reproduction of the material structures and sociocultural practices—the fixities—that define and shape flows. In short, coherences of cultural orientation mobilize certain



Figure 16. Pendant bridge (also known as Puente Transbordador, or Transporter Bridge) over the Riachuelo River, La Boca.

possibilities and immobilize others, such that the discursive space in which decisions regarding bridge design, placement, and recuperation are made and contested will change with technology and the zeitgeist but change in patterned ways. Intergenerational engagements between city dwellers and their aquatic habitats have given rise to both apprehension and action. The stubborn and inventive ways that porteños overcome disasters, natural and political, are part of habitus, which are dispositions and habits that in their very instrumentality are the source of deepest meanings (Bourdieu 1985). Porteño habitus, which has arisen out of centuries of river struggle, then, is a touchstone for envisioning meaningful waterfront development. My research suggests that habitus sustains the passions of neighborhood activists tirelessly trying to force the government to implement antipollution laws for industry and of plastic artists who turn the dead waterscape into a sort of wonderland.

The Bridge of Womankind

The port history of Puerto Madero is largely confined to the short time it operated as a port. Located between La Boca to the south and Puerto Nuevo to the north, the port was officially defunct between 1920 and 1989. I can imagine abandoned piers and warehouses; water bearers,

laundresses, homeless persons, gamblers, and otherwise marginal people; and people engaged in marginal activities who used the mud flats during this period, but they have not written their history in easily discoverable forms. However, there is an attempt to reinvent history in the shape of a graceful footbridge designed by Santiago Calatrava with a central section that rotates to allow passage of yachts. This is indeed a troubled space. Brian Holmes (2007) captures the uneasiness of porteños:

The visitor wandering down the quay is greeted by the sight of an elegant white suspension bridge with a single cantilevered support, signed by the Spanish architect Santiago Calatrava: a must for any waterfront redevelopment project. A memorial plaque informs us that this Puente de la Mujer, or “Bridge of Womankind,” was inaugurated on December 20, 2001. But that’s impossible—because that was the second day of the Argentinean revolt against the consequences of neoliberal globalization, and the city’s elites were in no position to do any celebrating. . . . With its postmodern historicism and its grandiose dream of participation in the information economy, Puerto Madero appears as a speculation, in all the senses of the word, on the prospects—and the profits—of a total erasure of memory.

Holmes focuses on Argentina’s counterhistorians who do political street theater and art as a way to struggle against Puerto Madero’s architecture with its “clear intention to make sure that nothing whatsoever will be remembered” (Holmes 2007). I too documented a deep suspicion among water activists about not only Puerto Madero but all projects arising out of the neoliberal economic order, popularly understood to be the negotiated outcome of the dictatorship of 1976–1983. For many, the elites and the military have always been in cahoots. They represent fixity of social and political control and an obstacle to participatory democracy. In this interpretive frame, in counterpoint to the salvaged silo, the bridge arises from revitalized space as a beautiful but inauthentic celebration of national unity and progress. This is not to say that porteño performing artists will not eventually remake the bridge in the image of the people.

Art, Dereliction, and Development

The visual contrast between La Boca and Puerto Madero waterfronts might be ordered according to a market-based binary logic of dereliction and development; the former devalued and the latter value producing. This split encourages an impulse to do with La Boca what has been done with Puerto Madero, to similarly activate La Boca as a site in the global economy. But this logic is faulty. It suggests that these two places are independent and that while La Boca’s harbor may be terribly polluted, with sufficient resources this technical problem can be solved. This logic



Figure 17. Roof sculpture facing postindustrial harbor front.

disguises the relationship between degradation and development: that La Boca's degradation is held in place by those for whom Puerto Madero represents success. Although I have not followed the money trail, I believe it makes sense to assume that many of the elites and multinationals that benefit from investment in Madero also depend on the impunity of polluters upstream from La Boca. The slaughterhouses and tanneries still spew toxic flows as they did in days of yore; they have been joined today by the uncurbed growth of paper mills, petrochemical plants, and producers of genetically modified soy. The binary logic gives rise to fixities in which an ideology is embedded that is supported by a tentative democracy but always threatened by police and military forces. These fixities, inspired by a troubled binary logic, disguise the flow of pollution that poisons La Boca residents even as it fills the foreign bank accounts of those who own and enjoy Madero.

Meanwhile, La Boca's artists have transformed a space of dereliction into a fascinating habitat of the surreal. Within this ruined postindustrial waterscape, sculptures and paintings create a bizarre, dreamlike state in which a visitor who dares to walk the piers beyond the tourist blocks can experience a universe where disgust and beauty collide. (See Figure 17.) The pendant bridge towers over the neighborhood, while its painted image appears inside and outside the tourist zones, as if daring witnesses to declare that the scenes before them, and postindustrial landscapes more

generally, are without value. Although the riverine myth of infinite cleansing power is abolished here, artists stave off the forces that would declare the place unoccupied. There is a standoff: Art interposes its images on the boundary between dereliction and development. The visual field aesthetically activates and enhances the political work of neighborhood assemblies fighting for a clean environment in the courts and in the streets.¹⁵ For those who lived through Argentina's troubled history, memories will not vanish in the face of Puerto Madero's architectural optimism. Nor will the devastation of the aquatic ecology be alleviated by situating new waterfront developments in semiprotected isolation. The first closed-canal design of Puerto Madero failed because it did not allow for growth in trade and ship size; notwithstanding Calatrava's footbridge, the success of its redesign must be qualified by its failure to engage constructively with the larger riverine context. Having sidestepped that struggle, Puerto Madero sits like a tiny, unsustainable comfort zone in an increasingly poisoned coastal city. This is a potentially transformative moment in coastal management: Even the Dutch are questioning their reliance on the fixities of dikes for flood defense and turning toward the restoration of natural flows and the repair of vulnerable estuaries (Meyer, Bobbink, and Nijhuis 2010). If financial investors, planners, designers, architects, engineers, and ecologists have the courage to put their development models in dialogue with each other and, most importantly, with the struggle for social and environmental justice in Buenos Aires, La Boca and the coastal plain might retain their vitality as they bear the brunt of revitalization.

7

Neighbors Fight to Reverse Eco-Blind Engineering in Tigre Delta

Stirring the Politics of Chronic Disaster

As concern about the profound pollution plaguing Greater Buenos Aires wells up from the mobilized, they continue to draw in a variety of institutional actors and agendas to their missions. Participant observation in a series of water gatherings allows me to understand how much watershed destruction is a result of downright *faulty*, not merely unevenly scarce, hydraulic engineering. Once built, no matter how faulty, eco-blind engineering structures become modification resistant; their mass, scale, and persistent toxicity literally dominate and destroy landscapes.¹ Moving the scene to the northern jurisdictional boundary between the city and the province, this chapter presents one case, the pollution disbursement power of the Alleviating Canal (*Canal Aliviador*; the name referring to its poorly conceptualized intention for flood control). I align this account with the perspectives of the Assembly of the Delta and the Río de la Plata, an organization fighting for the life of the endangered delta, one of the world's most immense and biologically rich wetlands.

This chapter is an account of three events: a mass-mediated government event inspired by the assembly's collaborative work, regular quayside assembly meetings, and a meeting between government lawyers and activists from different neighborhood assemblies. A cautious, urgent, anxious, and optimistic tone permeates throughout. The chapter ends, however, with a disappointing legal judgment, compliments of the federal Supreme Court, that comes down several months after I leave the field.

Defender of the People's Report on the Reconquista River Basin

I first make contact with the Assembly of the Delta and the Río de la Plata on the day that the federal ombudsman, the Defender of the People of the Nation,² releases a Reconquista River report that documents how urban pollution pushes up into the delta's beautiful rivers, islands, and streams. The Defender, the assembly, and the other signatories based their report on a collaborative three-year study with scientists, foundations, university scholars, and an archdiocese.³

Draped in block-lettered declarations on this day, the Defender's office in a narrow street of central Buenos Aires is easily recognizable as the place where river contamination will be confronted. In front of the bannered wall, activists stand behind a table offering information and photographs of engineered landscapes, a sign-up list, and dialogue. Today's release follows the Defender's 2003 report on the Reconquista's polluted twin, the Matanza-Riachuelo: the two rivers that together compose what one participant inside will call a "transcendental circle of sewers." The government has not yet responded to that 2003 report, and its stalling mutes the triumphant air of accomplishment accompanying the release of the Reconquista report. Within shouting distance is a march of teachers and their supporters (an estimated thirty thousand strong), protesting the police killing of Carlos Fuentealba,⁴ which also complicates this institutional attempt to bring national attention to ecological havoc in the delta.

As we enter the public building, one woman ushers us over to another with a list. After we identify ourselves, she in turn ushers us into a small room with about fifty seats and six large TV cameras facing a long table behind which important speakers will sit. The size and arrangement of the room signals that this will be a media event rather than a public information or discussion meeting. Indeed, everyone already knows what will be reported. Over the next twenty minutes or so the room fills with government people and activists. One woman cries out enthusiastically, "*Un momento glorioso!*" Eventually, about ten white men in suits, representing the various universities and NGOs who participated in the report's creation, squish into seats behind the table facing the TV cameras; another brings a tray with water glasses.

From his place in the center, Eduardo Mondino, the federal ombudsman, who embodies the protective authority of the law, uses the display screen behind him only cursorily as he makes a statement. He begins by saying that he considered putting off the meeting because of the possibility that it would be overshadowed by the teachers' protest march happening down the street. After presenting mostly a collage of facts from the report, he says that since the march was *against* death—that is, *for* life—that since there is no greater right than the right to life, and that since this report is about the right to life and our ability to care for future generations by

creating conditions for the continued life of the river, he decided to proceed. After naming the various organizations and their representatives, he proclaims a series of denunciations about the Reconquista, a river with a particular history, named for the combat that took place in 1806 during the British invasion of Buenos Aires, the same river that is now a sewer with a dirty mouth discharging into the delta. After summarizing the dire state of the delta, he insists on the delta's value as part of a unique ecosystem. The delta is principally fed by the Paraná, which is the planet's only major river system that does not flow directly into a sea, one that has a unique biogeography and ecology, because of crossing from tropical to temperate climates (Soldano 1947).

Mondino says that when the government finally intervened, it came up with only a temporary solution that made things worse. It did not have an ecological vision; it had just a public works vision. We need new infrastructural investment, Mondino says. This is the moment to break the inertia. The Riachuelo is now a symbol of ecological devastation, but the Reconquista, lacking infrastructure, may wind up in even worse condition if we do not take action immediately.

Before passing the microphone to a fellow speaker, he urges the government to follow the report's recommendations and, more importantly, take heed of the law. The next speaker, a man from National Water Resources (RHN, Recursos Hídricos Nacionales) reiterates that there is a gap between ideals and reality: The profusion of norms are not applied; the law should be imperative instead of optional. A neighborhood assembly representative accepts the mike and declares, Politics is the worst contamination. Government agencies do not comply with the constitutional mandate at either the provincial or national levels.⁵ We want to put the dictatorship behind us. It's been twenty-two years. We want to participate, to have control over the situation, to obligate those in power to comply with the law. A medical sciences man says that health risks are at the highest level, but the epidemiological surveillance systems lack measures to accurately define and register the environmental causes of health problems. Meanwhile, much of the population is gravely affected but lacks access to medical care and sanitation.

Without being formally invited to join the discussion, the audience starts asking questions. A woman wants to know *which* factories are causing the most problems. The medical sciences man responds with a reply that suggests not even straightforward questions lend themselves to answers. He says that, unlike the Riachuelo, where the petrochemical industry dominates, the Reconquista has so many numbers and kinds of industries it is impossible to even name them. Moreover, they are more dispersed. For example, he says, pesticides prohibited by law in the 1970s are still in the water. Why? Do their effects persist despite industries having stopped using them, or are they still using them? We do not know.

Questions and answers continue until the Defender brings the meeting to a close, after which networking goes on in the small room and the

foyer. I talk with activists outside, which leads to an e-mail exchange with a woman I call Abril and also to my participation at the next assembly meeting in the Tigre port on April 15. Before proceeding to an account of that Tigre quayside meeting, I summarize how a poorly designed and managed canal meant for flood control caused the ecological crisis in the delta.

A Case of Eco-Blind Engineering

For this summary of the history and present ecological difficulties of the delta, I borrow strands from the Defender's (2007) Reconquista report.

Environmental History

The Process of Territorial Occupation (Sixteenth to Eighteenth Centuries)

The Reconquista curves around the north and west of the city of Buenos Aires, emptying into the Luján, which in turn empties into La Plata. Postconquest, the Guaraní, who inhabited the territory defined by this fluvial intersection, were gradually pushed farther and farther west along the river. By the seventeenth century, the mouth of the Reconquista (called Las Conchas) became a port (Tigre) for the unloading of lumber, charcoal, and firewood, all harvested in the islands of the delta. With the imposed Spanish monopoly still in place, Tigre port was also the center of contraband trafficking across La Plata into the territory that would become Uruguay (Defensor 2007: 13–17).

Inundations That Make History (Nineteenth to Twentieth Centuries)

"The river's inhabitants have always been subject to climatic surprises and a lack of city planning" (Defensor del Pueblo de la Nación 2007: 17). Rising waters in the form of a strong southeasterly almost totally destroyed Tigre village on June 5 and 6, 1805, and some months later the viceroyalty of Spain commissioned the first engineering sketch of a flood control canal. In 1812, four years before official independence, the new Argentine government commissioned a technical report that urged the completion of a canal to alleviate flooding. Then on August 19 and 20, 1820, a violent tempest of catastrophic proportions destroyed all riverside homes and transformed an insignificant ditch into the Tigre River, which left Tigre port an island encircled by the Reconquista, Tigre, and Luján. The idea for building an alleviating canal persisted through the decades, as other floods, laws, and plans for the delta were elaborated (Defensor 2007: 17–21).

In the 1940s and 1950s the politics of import substitution swept through Latin America, triggering an intense migration from interiors to urban peripheries. The impact of migration was especially strong in the federal capital of Buenos Aires. Numerous industries settled along the

urban edges, especially along the Reconquista, which offered cheap land relatively close to the capital, convergent railroad lines, and water in which to dump effluents. In the 1960s Argentina's first modern highway, the Panamericana, crossed the whole of the Reconquista basin, intensifying population growth. Between an avaricious real estate industry and authorities who exerted almost no control, a boom market flourished in the flood zone. Developers built neighborhoods and towns in ostensibly desirable locations within flood zones, and many if not most of those areas lacked infrastructure and basic services. Hence the predictable drama of catastrophic flooding continued to punish the inhabitants in successive decades. All the industrial activities and processes were sited without consideration for zoning or environmental protection. As a result, intense contamination from multiple origins ruined the Reconquista River and its surroundings.

The Biophysics of Inequality in the Basin

In its lower course, the Reconquista enters the Luján River valley. Since the tempest of 1820, its flow naturally divides into the Reconquista Chico and the Tigre Rivers.⁶ Flowing over a relatively flat and uniform plain, the Reconquista does not meander, and a copious rain can rapidly increase its volume. When rain combines with coastal storms, the lower part of the river valleys flood (Defensor del Pueblo de la Nación 2007: 25). And when strong southeasterlies come, the winds raise the waters of La Plata, blocking the discharge of the Reconquista, Luján, and Tigre. The highest southeasterly wind velocities and the biggest storms—the greatest blockages—generally come in the summer, when the rivers' volumes are increasing (27). To this interfluvial dynamics the Alleviating Canal has been added, creating an *artificial* split in the Reconquista flow as it heads to the Luján.

The Reconquista River Basin holds the privileged position of being on the main regional axis of communication, the Mercosur trade route between Buenos Aires and São Paulo.⁷ Extreme differences in urbanized aggregations along the route divide the rich and poor into "poles of prosperity," which separate wealthy areas from blighted zones of structural poverty.⁸ The Reconquista basin presents the worst sanitation situation in Greater Buenos Aires: 40 percent of the population has no connection to the potable water network and 63 percent is not connected to the sewage network.⁹ The stark social differences affect the biophysical dynamics of the basin. Kilometers of flood zone inhabited by the poor often constitute artificial barriers that protect the wealthier neighborhoods hanging above. In contrast, the wealthier neighborhoods construct canals and floodgates to deflect flooding without taking account of how the water diversions might affect surrounding neighborhoods (Fernández 2002: 271, cited in Defensor 2007: 33). To this, add *at least* 330 industries of high environmental risk near water bodies in the middle and lower ranges of the Reconquista.¹⁰ The principal industries are textiles, meat packing,

construction, chemicals, and tanneries. Most of the basin's industry is small to midsize, although there are automotive megacomplexes and large national companies such as Ford, Volkswagen, and Alba.

In short, a heterogeneous, unplanned web of agriculture, industry, and human settlement, concentrating along the shoulders of rivers, anarchically pursued, and without taking account of the region's environmental characteristics, gradually replaced the flora and fauna of the basin. Explosive and disordered population increases dominated the poorest and densest places, those most vulnerable to flooding and contamination, with grave consequences for health.¹¹ Moreover, the combination of vulnerable populations and illegal dumping of industrial effluents combined to contaminate subterranean and surface waters.

Bad Engineering: The Alleviating Canal Spreads Urban Pollution into the Delta

The Impulse to Build

Between 1942 and 1985, as population levels continued to increase in the flood zone, the Reconquista flooded eleven times. All but three of the floods mostly affected settlements in the lower and middle areas of the riversides. But the more devastating floods of 1959, 1967, and 1985 reached beyond the poor, each causing the evacuation of a hundred thousand people with concomitant economic devastation. And so, alas, the Alleviating Canal finally came into being.

Combining Functions

In recent history, a lower branch of the Luján River (which would eventually become the Alleviating Canal) flowed through lands owned by a patrician family from Tigre, Pacheco de Alvear. The family donated the land and the watercourse that flowed through it to the state for use by the national rowing team. In 1972 the 1.5-kilometer watercourse acquired a second function: It served as a canal that diverted water from the Reconquista. Instead of all the Reconquista flowing into the Luján via the Chico and Tigre, the engineered canal diverted some of that polluted water, essentially reversed the clean flow of the natural branch, and dumped the polluted water into the Luján *5.5 kilometers upstream* from the natural confluence (see Figure 18).

Incompetence and Unintended Consequences

A spillway to control the river when heavy rains, storms, or southeasterlies caused it to rise seemed a great idea to some engineers. But then the flood of 1985 submerged nearly thirty thousand acres of land and affected about three hundred thousand inhabitants, which, apparently, dashed all thoughts of control. The embankment that controlled the Reconquista's flow suffered nearly irreparable damage and left a direct, open, and uncontrolled connection between the Reconquista and the Alleviating Canal.

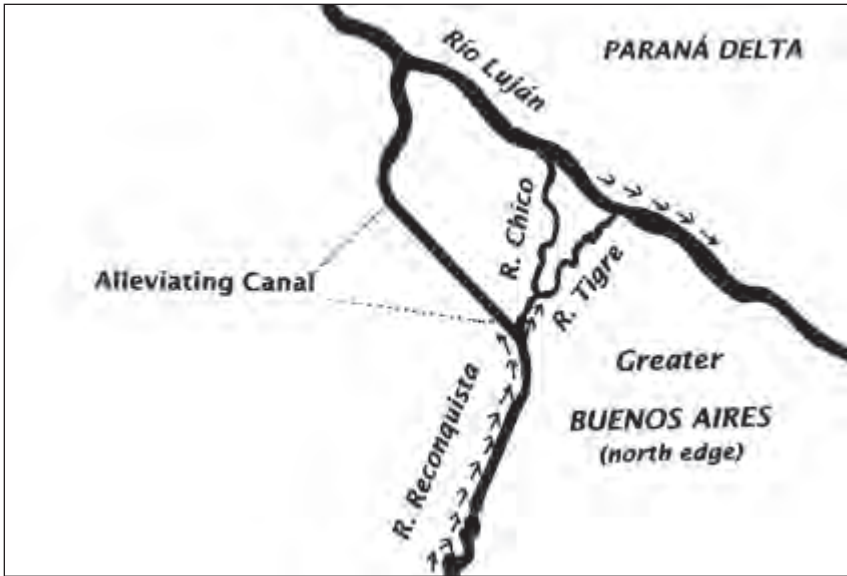


Figure 18. Tigre's interfluvial connections spreading contamination from the Reconquista River through the Alleviating Canal. Cartography based on satellite view of Reconquista's triple mouth in Defensor 2007.

This effectively moved much of the pollution and garbage draining out of the conurbation higher up into the delta's river system.

Ten years later, in 1995, the responsibility for effective flood control was given to the internationally financed and now infamous public works project Coordination Unit for the Reconquista River Project (UNIREC, Unidad de Coordinación del Proyecto Río Reconquista). It also had responsibility for cleaning up the contamination that had spread into the delta's river network from the Alleviating Canal. But UNIREC's charge, in part, to augment the capacity of the Alleviating Canal and at the same time build radial floodgates to control future augmented flow floundered because of ill-conceived engineering: The project raised the height of the embankment that separated the Reconquista from the Chico and Tigre, the two rivers into which it naturally flowed. Raising the embankment completely obstructed the Reconquista's natural course and diverted *all* its waters into the Alleviating Canal.

For a year and a half the intensely contaminated waters that once naturally flowed downstream through the Tigre and Chico flowed *upstream*. As a result, contamination spread outward from the Luján into the islands of the delta between the arroyo Caraguatá and the Carapachay River. Even after UNIREC added floodgates, when the Reconquista rose because of rain upstream 90 percent of the contaminated water flowed into the Alleviating Canal. Counterproductively, this arrangement continues

to spread contamination while offering no significant protection against neighborhood flooding because, as it turns out, heavy rains upstream *do not* produce the greatest flooding effect; it is water coming from downstream, when southeasterlies (an ever-present threat) block the Luján from draining into the La Plata, that plays the starring role.¹²

The neighborhood assembly hopes to reverse this situation.

Quayside Assembly Meeting in Tigre Delta

A Sunday Morning Train Ride, April 15, Buenos Aires to Tigre

The car doors close, brakes let air out, and the train pulls creakily out of Retiro station on the Mitre Line up the coast, north of the city, running roughly parallel to the Río de la Plata. From the window I see iron girders framing the rail yards. Scattered about like graffiti, rails, old cars, and tanks inhabit the remnant space; to the left, the wide, elegant Avenue Libertador is practically hidden. Picking up speed, we cross under the twelve-lane 9 July Avenue, the cranes in the container port before us in visual conversation with the tall luxury hotels we leave behind. Beside the villa's revelatory expanse of shacks appear more industrial sheds, pipes, a warehouse, and the Ministry of Health. Looking toward the villa, I see a garbage truck yard; looking toward Libertador, the lovely clipped green spaces of parks next to residential and corporate towers. I see a stadium, horses and riders cantering in the hippodrome, tennis and golf courts, and a series of high-rise residential neighborhoods followed by an upscale band of classy dwellings. Graffiti and an occasional banana tree set off the dull gray of the railroad tracks' surroundings as neighborhood class status starts sinking toward industrial; two Dobermans and a rottweiler guard a yard, of course. Thirty-two kilometers from Retiro we pull into Tigre's historic-touristic train station. We emerge on the northernmost edge of the megalopolis, where it stops just short of the delta's expanse. Here families come to relax in picturesque nature, gamble in the casino, stroll through the open-air market, and take riverboat tours. An imposing McDonald's dominates the manicured river scene. We join a small group of neighborhood activists as they begin to gather quayside. Just upstream, a row of territorial flags lines the bridge that carries motorists up to the delta's edge.

Unfurling Banners

Standing at the boat landing, I watch a man in a cap rowing downstream, his canoe dwarfed by ferry boats on both sides, their engines idling as they await tourists. By 11:30, an hour past the appointed time, the assembly will be well under way. Abril, the woman I spoke with at the Defender's event and with whom I corresponded, talks with a few others under the flowering bower on the inside edge of the stone quay. The man from the

canoe brings a set of white cloth banners, rolled up like scrolls on metal poles. As the group hooks the poles to the iron balustrade at quay's edge, the messages on each banner unfurl last to first:

WATER || ENOUGH OF CONTAMINATION || ASSEMBLY OF DELTA AND
LA PLATA

A clean river || So that the rivers don't die || so that life does not die
|| so the fish don't die || [painted image: bird's-eye view of the delta]

The ready-made banners frame and connect the day's ongoing business of water politics for the benefit of the wider public. With the river flowing behind them, the banners hanging in the air articulate a message as much by their location as by their words. If the banners on World Water Day marked off a central Buenos Aires avenue as processional space enacting the principle of living water and those draping the Defender's office marked off legal-architectural space for a discourse on a river basin in the urban periphery, today's banners provide a visual discourse on the immediate space of aquatic experience, the affected Tigre River itself. As the activists bring themselves to the scene of environmental crime, the banners extend and explain their presence, troubling the touristic frame of interpretation meant to seduce those engaging in pleasures of aquatic consumption. The banners' critical message seems fragile in the face of the visiting public's desire to rest from the world's problems.

Almost all of the activists live in the delta, either on the continental edge or on the islands, a network of waterways with homes, hotels, and restaurants. This is the first meeting after the release of the Reconquista report. Although the assembly labored mightily to bring the report into being, the members are under no illusions about the power of the Defender's high office. A young man (Pedro) sets up and sits behind a table; the group gathers around as he starts the meeting. After an account of another recent meeting two of the neighbors had with the National Institute of Water (INA, Instituto Nacional del Agua),¹³ a complicated discussion of the limits and possibilities of the political process ensues. Martín Nunziata, a sculptor of wooden birds in flight, has coordinated activities to save the delta since 1976, when he and his family moved here. He now summarizes the discussion's rhetorical point of departure: "We lack confidence in all the government agencies. And while it is also true that we don't expect great results, at least now the Supreme Court has to respond. We're talking about environmental mitigation, not just sanitation works." (In 2006, the Argentine Association of Environmental Lawyers, an NGO, initiated legal proceedings for the Assembly of the Delta and Río de la Plata that demanded the recuperation and cleanup of the Reconquista River Basin by the federal government, the province, and the Autonomous City of Buenos Aires [Supreme Court Proceedings A-1722/06].) The exchange, despite the repeated attempts of a relatively younger, long-haired woman to refocus

the talk on concrete goals, keeps sliding away from specifics. For example, one man says in frustration:

What is legality? Every time we exert pressure, it comes out in the daily papers. Supported as we are by the National Constitution, it is incredible that citizens have to go all the way to the Supreme Court because none of the various levels of the government has fulfilled their responsibilities. Neither the municipality, the province, the legislature, the secretary of environment, nor . . . [anyone] has come through. We were forced to go to the Defender of the People.

After a few minutes the conversation refocuses on something more specific:

WHITE-HAIRED MAN: People of the islands (*gente de la islas*), we need to send a letter about our problems with the effect of tourist boats on dockside air and the navigation of big boats. The number of boats and tourists is always increasing. We need navigation security. The tourist boats also don't have chemical toilets; they just shit in the river.

UNIDENTIFIED SPEAKER: To have chemical toilets they would need a cleaning port to deal with the chemical baths.

LONG-HAIRED WOMAN: I was doing my wash in the river the other day, and a big turd came floating by. Ugh!

But this is too specific, or at any rate, not central enough. Someone reminds the group that they have upcoming meetings and they must devise strategies and agendas. Besides Jason and me, whose presence was explained early on, another outsider is present. Partway through the meeting he introduces himself as a representative of the Communist Party and invites the group to consider working on their problematic in this "other space." The offer is rebuffed kindly ("We are a harmonious group of citizens not aligned with any particular party" and "It's a personal issue"), at which point the communist leaves. At various points, two men who brought fixings to make maté (dried leaves, maté cups with built-in silver straws, and thermoses of hot water) take turns passing the cup of hot bitter tea around; another passes around the cookies his sister always sends. These are small, welcome pleasures to fortify body and spirit. The central intellectual tension in the meeting keeps turning them back to the question of legal identity:

MAN IN RED HAT: Juridically, we are nobodies. We need greater force.

MAN WITH GLASSES: We are concerned that our objections will be channeled through one organization or another, then mixed with others and diluted. We need to gain control over our mission criteria.

BALD MAN: It is a question of organization. With a thousand people behind us, we'd have force. We are only a group of petitioners [*personarías*; their e-mail list has 206 people on it].

The ensuing discussion focuses on whether they might be allowed to become part of the official Basin Committee of Río Reconquista. (In theory, basin committees give civil society a voice in government planning at the scale of the river basin, which often includes several rivers and multiple jurisdictions. (See, e.g., Biswas et al. 2004.) They wonder whether they would need to transform themselves from an assembly of neighbors into a formal cooperative with standing as a legal actor or representative voting body. Abril, one of the women I met the day that the federal ombudsman released the Reconquista report, sits down and reads from a set of legal documents she brought. She reads a letter aloud, "the government's answer," that defines who can participate in a basin committee. After some deliberation, they figured out that a relevant basin committee already exists, although it has accomplished nothing to date. Putting the legal documents back in her bag, she refocuses the discussion:

ABRIL: So how do we acquire the status of a juridical person [*persona jurídica*]?

BALD MAN: As neighbors we have accomplished some things: We cut off the river from transit [in an illegal action of blockading the bridge in 2000]. When we did this, we thought, "Wow, we have the power to do this?" But we have an internal contradiction. We want to resist, but we do not want to be in a formal institution, so we will not change our structure as an assembly. We are very few, but we have power. We believe that we are more than we are.

ABRIL: We must clarify what our assembly of neighbors can accomplish by becoming a juridical person. There is no guarantee that it would set us on the right path.

After the meeting, which went on for three hours despite the constant drizzle and barrage of mosquitoes, the group started taking down the table and the banners. A core group agreed to continue planning somewhere else, and Abril suggested that I read the Reconquista report and that we continue our conversation in the future.

Inquietudes: Neighborhood Representatives Meet Government Lawyers

The invitation to the meeting between government lawyers and members of the Greater Regional Forum came to me by way of Susana, the woman from Almirante Brown whom I met on World Water Day.¹⁴ She had not

e-mailed me in quite a while, she said, because lamentably her home is flooded. "But," she adds, "as there is no evil from which good does not come" (*pero como no hay mal que por bien no venga*), the rains have at least made more neighbors conscious that "something is happening here." The invitation states that the regional forum seeks (1) free legal support from lawyers in the Public College, and (2) the opportunity to work together to further neighborhood cases in the courts and in the office of the public prosecutor for the environment. Furthermore, it states,

we focus on these two simple points of common interest for all the organizations after many years of struggle, research, and presentations and after having exhausted all administrative opportunities without having been heard, which leads us to think that WE NEED LEGAL AUTHORITY (*la justicia*) to continue advancing.

And considering that what is in play is our quality of life, our future, and above all OUR PHYSICAL HEALTH, now is the time to act juridically, supported by this institution of such prestige and with influence on the other powers.

Despite the serious intention of forging a collaboration, the meeting itself would reveal a fissure between lawyers and activists. Closing the fissure would entail a complicated process of alliance building to overcome an undefined but apparent inbred arrogance toward activists on the lawyers' part and a palpable mistrust of the lawyers on the neighbors' part. In this account of events, rather than attempt to put forth the complicated range of substantive issues on the table, I focus instead on the tones of suspicion, impatience, and resistance that disruptively emerged out of the subtext. Because the ethnographic team accepted a seat at the table of interaction, the event calls for reflexive analysis of complicity.

Friday, April 27, Public College of Lawyers, Corrientes and Uruguay Streets

The Greater Regional Forum of Assemblies meets this day with the Environmental Commission of the Public College of Lawyers of the Federal Capital (CPACF, Colegio Público de Abogados de Capital Federal) to discuss joining forces in the fight for environmental justice. The college, founded in 1986, occupies a modern building conveying an appropriate magisterial air. In a fairly small conference room upstairs, tables are arranged in a rectangle. As usual, Jason and I, arriving at the appointed time (1400 hours), are before almost everyone else. We take seats at the table. The table starts to fill with lawyers along the front and the neighborhood representatives around and behind the three sides. I sit between the folk from Tigre (Martín Nunziata, Pedro, and Abril)¹⁵ and Jason, who in this case cannot videotape, has no definite task, and attempts to move to one of the peripheral chairs. But the neighborhood representative seated next to

him (who, on the scale of appearance between aboriginal and European, is markedly closer to aboriginal) urges Jason (whose black identity happens to be uniquely resonant in Buenos Aires) to remain in his seat, which he does. Given our outsider status (willing witnesses), we appear to hold an inappropriate, certainly untenable, position, in this highly charged and tightly packed room. The meeting coordinators, including a lawyer I call Dr. Dario and two others, a man and a woman (whom I call Woman Lawyer 1), introduce things from the lawyers' perspective:

The aim of the meeting is to try and generate a unified set of demands by building on the idea that we are all affected by environmental issues, that we are all neighbors, that we are all on an equal plane, and that we [who are so qualified] are putting our legal training at your disposition. We look forward to doing some kind of public event with all the communities or forums that you represent. We have an auditorium that fits four hundred. We can bring in authorities. We can use the college as a point of power.

The introduction attempts to paper over differences in identity and experience between the groups, ending with a rather grasping, if well-meaning, attempt to put the lawyers at "a point of power." The neighbors are now instructed to go around the table introducing themselves, after which the meeting plan calls for a general discussion. But as introductions move around the room, they (predictably) keep sliding into condensed presentations of unique and complex neighborhood infrastructural problems or general takes on political conundrums. In an example of the latter, the representative from Lomas de Zamora says:

Are we, here, all together in the belief that this is an emergency? We [in Lomas] are submerged in fecal water and in a politics that hasn't worked. We need another model. This is no accident: distinct contamination persists under judicial silence. This is not a technical or economic problem. It is political.

Whenever the characterization of political process occurs, someone makes a declaration and a disclaimer. Dario inserts, "No one here is making party politics." While the first five neighborhood representatives take their turns, the lawyers interrupt six times, warning them against "going on too long" and urging speakers to "touch on each point," "try to present points that others haven't thought of," "present the model for a solution," and "take advantage of what has already been done." Then comes the respected man from La Boca, representing the assembly of Matanza-Riachuelo River Basin, which has been at the forefront of neighborhood organizing and whose official report from the Defender of the People was released in 2003, although they are still awaiting a Supreme Court hearing. Note how he assumes the role of convener:

Welcome. These issues have been absent from the public agenda for many years. After five years of work and silence, Gualeguaychú¹⁶ brought everything into focus.

It cost us heavily to get to the Supreme Court. We talked to many senators [and other officials] to try to get the [official] River Basin Committee to include social participation [in decision making]. Who will occupy the [legal] space under the jurisdiction of the River Basin Committee? According to what procedures? The River Basin Committee treats us as “consultants,” [and] we are not connected [to networks of power]. We have to make an effort. So . . . various groups come and offer help. The professional groups are appearing and they need to be coordinated. No one group can deal with all the complicated problems. We need to share the work because there is too much to do. We need to unify our community, we could also be one hundred thousand . . . or as strong as Gualeguaychú. On June 16 we will have an Interbasin meeting, and we should all be there. We are in the process of finding a place.

At which point, Dario pipes up: “We can offer space. We have an auditorium. The Commission on the Environment of the College was born six months ago with a different vision. Before the commission existed, the problems tackled were theoretical.”

There is palpable tension in the room about Johnny-come-latelies arriving when all the hard work to get things rolling has been done by ordinary people who manage with little or no help from the gentry. (Sometime after this meeting, the Interbasin Meeting Riachuelo-Reconquista-Río de la Plata [RRR] would be set for June 16 in the fire station of La Boca.) The representative from Matanza-Riachuelo responds:

We have not decided on a place yet, but thank you for your offer. We ask your help with humility. It has cost us greatly to bring the neighborhoods together. We want to communicate and participate. So it's good that you *also* want to help. Let's not begin to fight.

Woman Lawyer 1 says, “Everything remains as discourse, only complaints”; then some minutes later, she says, “This is the second meeting we've had here. We need to get a proposal ready.”¹⁷ Things go back and forth, between neighbors and lawyers used to battling about these issues, albeit in different ways, until a woman from Ituzaingó turns everyone's attention to the raw state of disorganized suffering in which much of the urban population lives:

We have no sanitation, and there is no plan to build a system until six or seven years from now—who knows? We need sewers. Neighbors are without water. We are asking that this black water not run into the water we use to drink. Where will this black

water run? We have no organization yet. Each neighbor has different concerns. We are not united.

Finally, it is Martín Nunziata's turn to speak of the delta:

We've been trying to get sanitation for Reconquista, the third-most-contaminated river in the world [after Riachuelo], since 1996. [He points to a map showing that the center of Buenos Aires has the population with economic power and is surrounded by a contaminated periphery.] I've got lots of maps, but I couldn't come in three canoes. They [the government agencies] are doing nothing. I'm not talking about Guauguaychú, but this should also be a national cause. We have worked thirty years . . . [for] democracy. . . . Why are we an assembly? We all vote. We are all politicking here. As citizens, we welcome you professionals—late but sure [*tarde mas seguro*]. You [lawyers] should assume a self-critical stance.

Dario replies, "This meeting is part of the self-criticism."

Nunziata says, bitterly, "Perhaps you are opportunists? In any case, welcome. We take the Reconquista, Riachuelo, and La Plata problem as one, coming together as an organizational body. We are here for justice."

Then Woman Lawyer 1 and Dario, with a critically intervening comment from a neighborhood representative, veer off into a discussion of how the lawyers want to help but the college does not function "cooperatively" and how they have got six months to come up with something.

Nunziata, patience gone, cries out, "Okay, let me finish!"

Woman Lawyer 2 responds, "Order! Order! Discipline!"

The man from Almirante Brown pleads, "We all know the problem, please. When I spoke, I presented my name, that I represented Almirante Brown, and finished! We've been here an hour and a half, and only six people have presented themselves."

Then everyone speaks:

LAWYER 1: Order!

NEIGHBOR: The man lives on an island in the delta, and he must be most affected.

NUNZIATA: Incredible! The organizations are turning against me!

LAWYER 2: Silence!

LAWYER 3: Please. One person at a time.

SOMEONE: I'm sorry.

Abril from Tigre attempts to get the presentation back on track: "Look, we [in Tigre] are at the bottom of the basin. We are getting all the garbage, sewage, and toxins. We already have an action in the Supreme Court. Pedro has the materials."

Four more people introduce themselves and their issues, and then Woman Lawyer 2 suddenly interrupts the representative from Nunez. Pointing her finger and glaring at me and Jason: "Who the hell are these people? What are they doing at this meeting that was supposed to be for neighbors and lawyers?" She had come in very late and missed the explanation and official acceptance of our presence, and so her charge meets with general disapproval. Her attack seems to be a rather transparent attempt to reframe the discussion, tipping it into an alternative mythical-empirical narrative (foreign imperialism), thereby deflecting attention from the lawyers' uncomfortable mix of constrained power.

Three more neighborhood representatives speak, and then the lawyers, most of whom do not sign the sheet that is going around, introduce themselves. One studies deforestation, another commercial law. The third turns to me and says, "I hope you don't follow Darwin and think that we Argentines are crawling out of the contamination." The fourth does penal law and works with workers harmed in the paper industry; the fifth does legal advising; the sixth has studied environmental law but is here for personal reasons; the seventh, a lawyer and journalist, does conflict resolution with Mercosur companies; another, a Peronist and self-declared man of the people, does constitutional law. After we hear of these good, if ambiguously stated, intentions, one of them admits, "This forum, however, has to be reviewed by the advisory board, which will decide if and how we will act." This last point generates a round of questions about how to proceed together (green lights, brass tacks, action plans, people numbers, dynamics of information) until someone throws out, "The problematic is in the world. The United States is responsible for most of the contamination, for the reality of how contamination happens."

Again, Jason's and my presence temporarily shifts the discourse toward protecting the image of Argentina by projecting the blame outside. Everyone, however, understands the ubiquity of blame. My observation of demeanor leads me to assume that the neighbors realize this as an attempt to displace the real anger and frustration in the room regarding how professionals treat ordinary people, the ones who sacrifice disproportionately in these struggles. While in other situations our national origin as Americans might rise to significance, in the context of this meeting, when Woman Lawyer 2 attacked us, she shifted the valence of power in such a way that we are brought more closely into the neighbors' fold, one of whom, though not present herself, invited us.

An angry neighbor says, "There are people who could not come. It takes a long time to travel here. I had to sacrifice work! These meetings have to be later!"

Dario explains that it is difficult to arrange meetings after normal business hours because of building security rules (pointing out yet another limitation of the agency of the lawyers). Another neighbor launches into a new commentary.

Finding the meeting ever more pointless, Nunziata is now yelling, "We've already got the report of the Defender of the People. We came for you to listen to us!"

LAWYER 2: This is excessive!

NEIGHBOR: Tolerance, not intolerance.

If the committee cannot get the forum accepted by their advisory board, Lawyer "Darwin" offers to take it through the Bioethics Committee of the Faculty of Medicine, of which he is a member. People's thoughts float into acoustic space like helium-filled balloons: "We can't accomplish this by legal or penal measures alone." "We need art, law, and craft." "We all have one objective." They are stopped short only by a neighbor's telling of a lawyer joke:

A lawyer drives by in a limousine and sees a humble person eating pasta en route. He says to the humble person, "Come to my house." The humble person says, "I have six people in my family." The lawyer says, "Bring them along." The humble person says, "Sir, how will you feed us all?" The lawyer says, "In my yard I have three meters of grass."

The joke provokes two conflicting sentiments: "Most lawyers do not honor the profession of advocacy" and "I have lawyer friends who have been disappeared." The meeting goes on for some time in a similar vein. After it ends, the neighbors are very friendly with Jason and me, handing us materials and exchanging contact information. When Woman Lawyer 2 attacked our presence, she actually seemed to solidify our welcome. And when she attacked Nunziata, saying, "This is excessive!" she became the odd person out, not us.

This event illuminates a relationship of complicity between a participant-observer and her subjects. Rather than traditional, long-term fieldwork in which an ethnographer works toward becoming an insider so as to build rapport and develop a better sense of how to decode internal cultural logics, at this meeting the ethnographer-participant does not expect to transcend her outsider status as she shifts through multiple fieldwork sites. As George Marcus puts it:

What ethnographers . . . want from subjects is not so much local knowledge as an articulation of the forms of anxiety that are generated by the awareness of being affected by what is elsewhere without knowing what the particular connections to that elsewhere might be. The ethnographer on the scene in this sense makes that elsewhere *present*. (1997: 97)

Human beings are implicated in toxic survival modes. Although those modes' toxicity is in large part outside our control, we are nonetheless, in multiple ways, complicit in environmental crime. Like everyone, I am complicit to the degree that my life is implicated in petrochemical dependence; this rather ambiguous and uncontrollable form of complicity is heightened by my citizenship in a nation (of people and corporations) that profits mightily from environmental crime around the globe. In contrast, the Argentine government lawyers' complicity in environmental crime is connected to their coming late to the struggle, despite their position, skills, and proximity, as Nunziata put it. The lawyers are somewhat tainted by an extra degree of complicity for not dedicating themselves to the battle earlier and more earnestly, and perhaps too, for the burden of the law's weighty but decidedly uncertain utility. Then too, the college of lawyers is part of a government that, like other governments, continues to show more support for corporate polluters than neighborhood associations.

But as Marcus (1997) points out, *complicity* has a second, more neutral definition that does not carry the connotations of criminal complicity: the state of being complex or involved.¹⁸ As the guest of and witness for the neighborhood representatives, I am complicit—that is, I am *together* with them in their struggle against the complex criminal forces that seem always to be beyond our understanding and the law's reach. The neighbors need the lawyers; at the same time, they aren't sure they can depend on the lawyers' commitment or availability. The presence at the table of two outsiders, Jason and I, clarifies intergroup differences that would have to be overcome for the Environmental Commission of the Public College of Lawyers to play a useful role. In other words, even if the lawyers' advisory board allows this collaborative process to proceed, it is not they who will have the last word. The meeting also illustrates the experimental dimension of ethnography, activism, and politics. After all, while one may hypothesize, predicting the outcome of intergroup social convergence with precision falls somewhere between the magical and the mystical.

Who Cares about Dead Fish?

Sunday, May 20, Tigre

Back on the quays, after the meeting breaks up, Nunziata invites me to join him at the railing for a look into the muddy river. Fish strain open mouthed toward the surface; he says that is because the oxygen-deficient water will not allow their gills to work properly. Reaching outside their element to gasp for breath, they present us with a frightening probability, nightmarish in its calculus. And yet it is a beautiful day: blue skies, winds just right, lots of tourists gadding about, even a grand ceremony in miniature with uniformed firemen and officials celebrating the acquisition of a shiny red fire-station motorboat.

On this day, we travel by canoe upstream on the Carapachay River to share a meal and conversation with Nunziata's and Pedro's families and to document their home water-treatment systems, which are small-scale versions of larger processing plants.¹⁹ They live on opposite banks in stilt houses of a type that line the rivers and streams in the lower edges of the 570 square kilometers of the delta. The delta's original inhabitants modified their houses, not the geography, Nunziata explains, living resiliently in an aquatic surge zone. In the old days, when he first came to the river, people drew water straight out of the river into a settling tank with a spigot, waited for the mud to separate out, and drank it without ill effects.

A Heterogeneous Arc, Working for the Same Objective

*The [people of the] basins of Matanza-Riachuelo, Reconquista-Luján,
WE SAY ENOUGH OF INDIFFERENCE, OF INEFFICIENCY, OF CORRUPTION, OF
IMPUNITY . . . ENOUGH OF CONTAMINATION!!!*

—ALFREDO ALBERTI, e-mail invitation to the first Interbasin Meeting RRR
(Encuentro Espacio Intercuencas RRR)²⁰

On June 16, neighborhood assemblies from across Greater Buenos Aires gathered in the great salon of the La Boca firehouse to form “a heterogeneous arc, working for the same objective” (Cervetto 2007). Bundled in sweaters, scarves, and jackets against the cold, four or five hundred neighbors from across the La Plata basin gather to create a collective organization for political intervention aimed at halting watershed destruction. Two large banners drape high across the front of the salon, just above speakers, facing the crowd. They read, “Interbasin Meeting RRR” and “Buenos Aires Embraces Life.”

Along the upper balcony, banners circle around the chandelier. They remind me of the replicas of body parts that surround the chandelier in Salvador's Church of Good End, only here the hanging messages project hopes yet to be fulfilled, not gratitude for answered prayers. Above a doorway on the side wall hangs the photograph that was attached to the toilet-to-sink sculpture on World Water Day, a suspicious brown flowing into pinks and blues, depicting one among many assaults on La Plata that will get a hearing today. Looking for familiar faces, I see Nunziata and Pedro from Tigre in the middle, front row. Sitting at the head table in his signature yellow scarf, Alberto Alfredi, the La Boca lawyer who testified for the Riachuelo River in the Supreme Court, lends his modest but certain force. Dario, from the Public College of Lawyers, also sits up at the head table. Among the various documentarians in the crowd, a group of University of Buenos Aires students who participated and filmed the last Tigre assembly meeting wave to Jason, who films them from across the room. A man in a beret whom we meet in Chapter 8 and who had articulated the water connection between the river and mountain peoples at the House of San Juan sits in the audience. Each neighborhood representative gets three minutes

to talk. Spinning narratives fill the crowd space, creating a parallel field of discourse that politically activates an interfluvial ecological field.

Deleterious Histories

Each assembly represents an aquatic ecological niche in the province of Buenos Aires. One stands out to me as a paradigmatic example of intersecting hidden cruelties. An assembly lawyer walks to the paper map hanging on the front wall, a satellite image of the La Plata basin. He points to Campo de Mayo, a huge expanse of military territory within Greater Buenos Aires, not far from the edge where the metropolis meets the delta. This exclusive zone provides cover for three hundred trucks a day delivering fecal matter directly into the Reconquista River. Another problem, he says, is the heaps of decomposing garbage leaching into the subsoil, brought into the zone by the (permanently in crisis) sanitation agency State Society for the Ecological Coordination of the Metropolitan Area (CEAMSE, Coordinación Ecológica Área Metropolitana Sociedad del Estado).²¹ All flows out to La Plata and then back in with the tides, he explains, spreading under the asphalt urban cap and among the islands and marshes of the delta.

Campo de Mayo . . . isn't that where . . . ? A quick look on the Internet as I write sends me tumbling back to the future of the Dirty War, on November 2, 2009, when the few victims who survived internment in the Campo de Mayo detention centers testify at criminal trials (European Center for Constitutional and Human Rights, n.d.). How did the exclusionary zone transition from a killing field to a hot spot for toxic dumping? Or did toxic dumping provide a context for human massacre?²²

Argentina's struggle with its degraded water ecology connects too often to the last military dictatorship through persistent governing alliances. At least the Argentine people are awake, engaged in direct action against a formidable, hydra-headed foe, refusing complacency in the face of environmental crime. At the Interbasin meeting, I marvel at how this organization's design encompasses the scale and diversity of habitat and habitus in the triple-river's encounter with the megalopolis. Jason and I leave long before the end, walking down the staircase, past a large painting of the La Boca harbor in its industrial heyday. The pendant bridge looms large. If it were not for the primary colors of cargo boats, there would be nothing to stop the eye from getting lost in the scene's watery gray tones.

Jurisdictional Prerogatives and Dead Ends

About a year later, on April 8, 2008, the federal Supreme Court handed down its decision in the case put forth by the Argentine Association of Environmental Lawyers for the Assembly of the Delta and Río de la Plata.²³ After presenting the environmental history at issue (in the first item, which is omitted in the following), the association argued that the environmental

destruction of the Reconquista River Basin exceeds the jurisdiction of the municipality and province and, indeed, resides under federal jurisdiction because of the following reasons:²⁴

2. According to the National Constitution, the nation-state controls navigable rivers and is named as responsible guardian in the Treaty of the Río de la Plata and its Maritime Front.
3. According to precedent (Mendoza), the only way to deal with the material character and interjurisdictional prerogatives and confusions associated with the Reconquista's discharge into La Plata is for the Supreme Court to declare competency. Moreover, national jurisdiction arises from the existence of the National Rowing Track and in the activities of the Argentine Navy and the Migration Offices, which govern transit between Tigre and Uruguay.
4. The Assembly of the Delta and Río de la Plata has initiated this process, which has been put forth by the association.
- 5./6. The National Constitution, various treaties, and laws articulate the nation-state's admiralty and maritime jurisdiction and its vital role in ensuring an impartial decision that will lead to national harmony and good relations with foreign nations.
7. The nation-state has competency and responsibility for environmental protection according to the federal norms of nature.
8. The nation-state has the authority to apply criteria of environmental protection that are considered conducive to the well-being of the community that it governs.

The lawyers pursue five more jurisdictional entreaties for the court's consideration (items nine through thirteen).

But the breach between law and crime only widens in the face of this appeal to the baldly intransigent, stingy shortsightedness of judges in power. The Supreme Court rejects all the arguments. Refusing to accept the invitation to align itself with the assembly, the environmental lawyers, and the victimized ecosystem, the Court sloughs off the responsibilities it could choose to assume, thereby continuing, to quote the representative from Lomas de Zamora, "persistent contamination under judicial silence." The Court declares the authorities of Argentina free and clear of any legal obligation to act: because, technically, the Reconquista's proximate engineering problems were perpetrated by and in the province, the provincial government must bear the responsibility. So the polluters and colluders laugh all the way to their offshore banks as the neighborhood assembly from Tigre and their allies retrench and gird for another campaign in their struggle to win a single, significant victory against those arrayed against them in the fight for environmental and human rights law.

8

Convergent Protest from the Provinces

Hydroelectricity + Gold Mining = Water Predation

Contesting the Complicit State: Destruction as Development

The language of development provides a cloak of legitimacy that protects the perpetrators of environmental crimes committed in the context of megaengineering projects (Svampa and Antonelli 2009). From the point of view of neighborhood activists engaged in the struggle to assert alternatives, a criminogenic impulse is part and parcel of eco-blind megaengineering projects and of the state that coproduces them. The projects are ir/regular and il/legal water-dependent machines that global outlaws (Nordstrom 2007) use to bypass national sovereignty and human rights; the global outlaws negotiate inside and outside legitimate institutions and businesses. To resist the illusion of development, to recognize the harms, and to call into account those who perpetrate such harms requires the convergence of organized, expressive, dedicated, and diverse people—that is, a social movement across multiple scales that includes, among other kinds of practices, staging street actions in cities. Through their intersecting journeys, activist groups expand the scale and relevance of cities as spaces for environmental politics, at the same time tearing holes in the illusionists' imperial cloaks. Coordinators of events bring public attention to particular crises through tactical improvisations that vary timing, intensity, participation, and style.

This chapter analyzes activist perspectives and cultural repertoires in a series of encounters and demonstrations in Buenos Aires. The events show how struggles against environmental injustice in the provinces mediate local and global fields of power in the capital city.

A serendipitous convergent event inspires the analysis. In it, Andean mountain activists and a porteño women's performance group arrive to contest the open-pit mining operations of Barrick Gold. The Paraná River people displaced by the hydroelectric dam Yacyretá, who earlier today protested outside the Supreme Court nearby, join them. The convergence of neighborhood activists from far-flung provinces takes the form of a mass-mediated rally in central Buenos Aires, a few blocks from the iconic Obelisk, at the house of the allegedly traitorous provincial governor of San Juan, José Luis Gioja. When activists bring together hydroelectricity and gold mining as coincident modes of environmental destruction, watershed destruction emerges as a unifying theme. The account of this and other selected events follows fieldwork chronology.

In Flux in Moon Land: River People Displaced by the Yacyretá Hydroelectric Dam

Yacyretá¹ represents hope, life, and it declares the dream as real as the splendor that gushes from the waters of the Paraná River. A project born with the century, later overcoming delays and difficulties, has transformed into a tangible reality and a milestone for the people of America who have understood that progress and development is conquered with the integration of resources and the purity of their courage.

—BINATIONAL ENTITY OF YACYRETÁ (EBY)²

Wednesday, May 23, Café in the Madres de Plaza de Mayo University, Congress Plaza

Argeo Amezttoy, a photographer and activist whom we met on World Water Day, has just returned from his journey to the Paraguayan side of the hydroelectric dam Yacyretá, where he conversed with and photographed people identifying themselves as Mbyā Guaraní.³ They once lived on the islands in the river and were moved without adequate reparations. I summarize his introduction to this complicated and evolving situation.

Topography-Driven History

Open and flat topography distinguishes Yacyretá from other hydroelectric dams. Instead of the usual drop in elevation that enhances the generation of hydroelectricity, Yacyretá is an extraordinarily long, seventy-kilometer wall across the Paraná River, an engineering feat that required flooding a 110,000-hectare expanse crossing the Argentina-Paraguay border. The first assessment of the huge river's hydroelectric potential was done in the 1920s, another proposal was made in the 1950s, and then in 1973 the deal was signed that led to the formation of the public corporation that owns

and administers the project: Binational Entity of Yacyretá (EBY, Entidad Binacional Yacyretá). Now, thirty-four years later, EBY has not yet but still hopes to meet its original energy-production goal. This requires raising the water level behind the wall another meter, causing an additional 50,000 hectares of flooding, for a total of 160,000 hectares submerged.

Disparities

Argentina, with the assistance of World Bank and Inter-American Development Bank loans, bore 80 percent of the cost. Much money was stolen, construction proceeded slowly, and the project remains incomplete. Sedimentation collecting behind the wall limits the life of the dam to fifty years, turning the project into a money loser. But they say that even if it pays too much for it, Argentina always needs more energy.⁴

For Paraguay, the dam affords no strategic value, and it flooded 80 percent of the land on that side of the border. Of the twenty turbines, Paraguayans need only one to meet their energy needs. They get the last piece of the cake: All the energy they do not use they sell to Argentina at a friendly price. The Paraguayan city of Encarnación is a big rubbish dump; unlike the city of Posadas on the Argentine side, it has made no improvements in its garbage and sewage practices.

A Dying Railroad

A private society owns the railroad, with rails in poor condition, that connects the Yacyretá region to Buenos Aires.⁵ Out of service for the last twenty years and peripheral to regional transport systems, it receives no state support. The one train left still works with a wood-burning engine! The train company would like to get started again but fears that it will lose the station if the EBY's planned one-meter rise actually occurs. Hence the company's interests are consistent with those of the affected people who would also like to stop the next flood. The railroad gave them a free ride to Buenos Aires and let them use the old train shed and attached office building to camp in while in Buenos Aires.

Argeo draws a map to lead us to the place where we will meet again.

Friday, May 25, Revolution Day, Interview with the River People

Jason and I climb out of the D-line subway into the cold bright day and walk across to the Frederico Lacroze railway station, stopping in a bakery to buy cookies to share with our prospective informants. Having trouble following Argeo's map, we stop repeatedly to ask where the Guaraní people are staying only to be met with shrugs. Eventually, a policeman points us in the right direction. A woman with a baby leads us through a yard where two men cook something on a fire, and then we enter a suddenly dark and much colder shed. Shafts of sunlight angle through cracks in the

wooden walls and roof; bare electric bulbs feebly supplement sunlight. As we wind our way past encampments with bedding, cooking utensils, hanging clothes, places to sit and lie down, and political banners and flags, we ask about Argeo, but no one knows him.

Culture, Identity, and Place

We explain our purpose and are led deeper into the shed where a middle-aged woman I call Olivia offers us maté and a bench or plastic chair on which to sit. I give Olivia all three bags of bakery cookies, which she swiftly hides within a little curtained area adjacent. Her daughter goes to heat the water, which she pours into a thermos and then into a maté cup filled with leaves. It takes a while to make, and when it comes it proves as always to be bitter but warming. I share sips from the silver straw as Olivia and I talk.

First we work through my confusion. I had come to Lacroze station looking for Mbyā Guaraní and had been led to Olivia,⁶ who looks the part but who assures us that she and her family do not identify themselves as Mbyā Guaraní. So I ask, “What do you call yourselves?” Olivia replies:

We do not have a special name for ourselves. We are the people who lived and fished in the river at Yacyretá. We are a mix [*mezcla*]. And you should know that the Mbyā Guaraní do not want to be called indigenous, they want to be called *originarios* [aboriginals]. And you should also know that the aboriginals have more rights than we do and get more help than those of us who do not have this identity.

I am beginning to appreciate how cultural identity fuses with (and is torn asunder from) place, as habitat and livelihood. As she explains her situation, others join us. The sunlight pierces the strange gloomy shed so resonant with artifacts from the abandoned train industry (e.g., an earthenware kiln down in what was once the train bed, jumbles of old cobblestones, buckets, and vintage cars and trucks). Not long after, Argeo shows up and so does another man who is a more sophisticated spokesperson for the group. I end up in intense conversation with the spokesman for about an hour while the others sit around and listen. Sometime during the hour Olivia opens and passes around one of the cookie bags.

As I am still unclear about resettlement patterns, we start with the national map provided in today’s English-language newspaper, the *Buenos Aires Herald*, in honor of the national holiday. The spokesman shows me how the binational flooded area joins Paraguay and Argentina and confirms the basic disparity Argeo told us about—that is, how the dam was built mostly to provide Argentina with energy but how most of the negative effects of displacement, contamination, and flooding were felt by Paraguayans. Argentina did not lose much land because it is at a higher elevation. Unlike the Itaipú hydroelectric dam upriver, in mountainous terrain, he says, shaking his head, this dam was built on a plain!

Even with the map as visual aid, it is difficult for me to sort out resettlement patterns in relation to national boundaries. The people lived *in* the river, *between* the countries. The lucky ones were sent to either Posadas or Ituaingó on the Argentine side; the unlucky ones with whom I speak were resettled in San Cosme y Damian on the Paraguayan side. They know that Argentina has all the power, the money, and at least the appearance of democracy, which is why, even though they technically are Paraguayans, they bring their binational legal appeal to Buenos Aires.

Lost Livelihoods

In any case, this group of river people find themselves between twelve- and sixty-kilometers distant from the islands in the middle of the Paraná River where they once lived and fished. They were not agriculturalists, though they practiced some agriculture. They had some cattle and they hunted, but mostly they fished. Some people lived on the river bank and made their living from its clay, producing tiles and bricks. Then they were forced off the islands and their houses were burned down. They got a meager, totally inadequate compensation: The company thought in terms of individual family units in tacky-tacky houses with little plots on bottomland far from the river. Each family got a house with running water and electricity on a twenty-by-forty-meter plot that floods with contaminated water when it rains. Their animals died.

Water Contamination

The water makes them sick. Before the dam, toxic wastes flowed on down-river. Now contamination from the paper mill and from city garbage all comes to a disgusting halt at the seventy-kilometer-long wall, the dam. They worry about the possibility of poison in the groundwater, once pretty and sweet, just ten to fifteen meters below. They believe that the cementlike material (*bentonita*) used to coat the river basin to prevent water flowing down into the soil poisoned all the wells that draw water from twenty meters down. The secondary effect of blocking flow out of the reservoir basin is that wells and arroyos (streams) are drying up, they say. They believe that another source of water poisoning stems from the rotting vegetation from all the inundated plants. And it is not only water pollution at issue. Olivia attributes her cancer to living near the thick electric cables carrying current from the dam's generators to the towers marching across the landscape from the hinterland to Buenos Aires. Water- and mosquito-borne diseases like dengue fever exacerbate health problems.

Just Compensation

The man argues for what is actually official policy on paper: Energy politics should include helping prepare displaced people for the transition, giving them the capacity to survive and continue their way of life in some form. Official goals notwithstanding, definitions, practices, and evaluations of outcomes are inconsistent with the river people's experience. They

came to Buenos Aires to ask that their petition for just compensation be given a fair hearing. They know that they cannot re-create their life: Their fish are gone and their land flooded, but surely they can create a new way of life inland if given more land, education, and the skills to help them shift from fishing to agriculture. Each family, they believe, should be given at least five, ten, or fifteen hectares in a place that does not flood.

The current public works plan to increase electricity production involves diverting water from three arroyos to raise the reservoir one meter. Yet the river people calculate that if the engineers divert only the deepest arroyo, water will surround the little piece of bottomland they have been given, essentially turning the land into islands. But this time they fear that the waters surrounding their islands will be contaminated.

Petitioning the Supreme Court

The binational group of affected peoples joined to demand that the official entity, EBY, provide sufficient resources to allow the displaced to survive in new settings. After twice winning their case in Misiones Province, Argentina, the case went to the federal Supreme Court in Buenos Aires, where EBY appealed. It is said that corruption protects EBY from investigation. Still, they hope that their petition will be accepted by the court of last resort. They will demonstrate in the plaza in front of the Tribunal (the Supreme Court) to press for a decision. The spokesperson I have been talking to explains:

We will bring drums. There are seven judges, and each has thirty days to sign. Only one judge is left [who has not signed our petition], but they have already had it for a year! We want a decision! The judges must take note that they cannot keep us waiting forever.

They show me a photocopy of the *handwritten* petition, which I copy into my notebook, translating it here with original emphasis in capital and bold letters. As a material artifact, the petition seems no more or less than a folk representation of the law, although officially it should call forth all the rights that citizens have before the law in a democratic nation. Unofficially, its style betrays its source, inasmuch as it has not been transmuted by the alchemy of power and influence.

Petition . . . of 2007

Binational Assembly of the Affected of Yacyretá in Defense of Humanity and the Environment

1. We reject the elevation of height 76 meters because it did not comply with assumed legal obligations. The delay in the badly named “complementary works” already constitute an ecological crime; the delay in the

- rehabilitation of and paid compensation to those affected already constitutes a violation of Human Rights.
2. We exhort for the value to be put into the ACTA DE KAA KUPE [an environmental impact study], complying with point 8.3 of PARR (PARTICIPATION OF THE AFFECTED COMMUNITY), of 6,500 members of OUR COMMUNITY GUARANI (by the inundation and occupation of the ancestral lands by the dam YACYRETÁ) by PRESCRIPTION of art. 22 of the PACT of the LEAGUE OF NATIONS: "THE DEVELOPMENT OF THIS PEOPLE IS A SACRED DUTY OF CIVILIZATION."
 3. That YACYRETÁ MAKE PUBLIC ITS ARCHIVES to avoid hiding DOCUMENTATION. Point: RESOLUTION No 4100/99 of the ENTITLED FISHERMEN OF PUERTO POSADAS, maliciously not included among the entitled fishermen, Puerto Posadas, under Letter "M" No 1225/05, A RESOLUTION OF C.S.j.a. keeping in mind the denouncement of Genocide presented to the Attorney General.
 4. COMPENSATE for the 70,000 flooded hectares of the community of San Cosme, Paraguay, legally indicated, and the Puerto de Santa Ana, making amends for the more than 30 years of delay.
 5. RECOGNIZE the AFFECTED and RELOCATED OF YTUZAINGO [Ituzaingó] so that they can leave behind the DISCRIMINATION OF TWO YEARS IN TENTS.

[Various signatures end the petition, including those of] Brigido Olivera, official voice, Binational Assembly, and Victor Oaretes, secretary, Civil Association of Yacyretá.

When I ask them to define *genocide* as it appears in the petition, they say it is "anticipated death" (*muerte anticipada*). The projection of dread associated with the destruction of habitat and habitus is consistent with interpretative action frames of other neighborhood assemblies in Argentina and environmental justice groups more generally.

Postscript, Degree Zero Centigrade

Accustomed to the dim light by the time we walk back toward the entrance to the shed, I am better able to see as we pass groups of people talking, a thermos of hot water and cup of maté always circulating, radios playing folk music or talk in the background; a girl preparing to cook; a man washing a T-shirt; and little national flags on sticks everywhere. Banners strung between girders on the railroad platform, all made of white cloth with holes cut in them to let the wind through, represent different groups (fishers, laundresses, and brick makers) and places of origin. Some specify ethnic identification. A blackboard's chalked message addresses Ricardo Luis Lorenzetti, president of the Court.

Another middle-aged woman leads us from the train shed to an unheated office building next door, where Argeo edits film footage assisted by two young porteño activists. Wearing nothing but a long-sleeved cotton shirt over a T-shirt, bare feet in flip-flops, our guide says that she got some work cleaning a shop nearby to earn enough to supplement the one meager meal that the train company provides, at midday. She took the free train

ride down to Buenos Aires but had not anticipated or prepared for the cold snap. The climate in the northern provinces of Corrientes and Misiones, where the river people come from, is much warmer.

Tuesday, May 29, Demonstration at the Tribunal

We get to the plaza in front of the Supreme Court in the afternoon of another bright cold day. The people we talked to on Friday are not here. About twenty or thirty, mostly Mbyā Guaraní, stand near an impressive proliferation of unfurled banners; nearby, two people are painting yet another. Now I understand why two of the banners I saw in the shed had **MINISTERS** or **SIRS** painted in large black letters above messages indicating places, issues, and group identities in smaller red block letters. The demonstrators hope to get the attention of judges who might glance out a window from the floors above and realize that they are being addressed by the people below. But demonstrators in the open square before the Tribunal are unlikely to project much more than their collective presence to the judges inside. Visual barriers intervene between plaza and court: Behind a busy street, the facade of the building is under renovation, scaffolding and sheets of black cloth block off large sections. Acoustic barriers also abound: traffic, construction, and general street noise. And thus the communication context itself manifests the asymmetry of power between petitioners and judges.

Meanwhile, in the plaza, we talk, shoot film, and meet people who invite us to come to Yacyretá to document the situation. They can arrange for us to ride the train for free, they say. (Twenty-four hours one way, probably without heat, cooked food, beds. Nope, we will get to Misiones by bus.) Given the cold, they cannot stay out in the plaza all week but say that they will return on Friday.

So on Friday about 2:00 p.m., we climb out of the Tribunal subway station and walk past the place where the people from Corrientes and Misiones hung their banners. Seeing no evidence of their demonstration remaining, we head into the warren of streets nearby to find another demonstration.

No a la Mina! (No to Mining!): Protesting Governor Gioja's Collusion with Barrick Gold

Friday, June 1, Comobilization against Eco-destruction

Our choice is clear: the House of San Juan is a symbol of Gioja's presence in Buenos Aires and the object of the escrache targeting absolutist government.

—JAVIER RODRÍGUEZ PARDO, Por Agua Pura (For Pure Water), after the street action⁷

This mission statement in the form of an invitation was e-mailed to me May 31, 2007, through the network of Buenos Aires neighborhood assemblies:⁸

On Friday 1 June neighbors of Calingasta, the beautiful valley of San Juan Province, will come to the city of Buenos Aires and our house of the province to repudiate the authoritarianism of the Gioja family that reigns in the province. The governor and local justice authorities violate the National Constitution with impunity and the provincial, the municipal, and the general Law of the Environment when they prohibit us for the third consecutive time in two years to decide at the ballot box whether we want the installation in Calingasta of megamining that will contaminate us. They dare to pass judgment that “the care of the environment is not within the competence of the municipality” or of the neighbors.

We want THE PEOPLE of Buenos Aires to know that this contamination comes from a hand that plunders our natural resources, that destroys our organic crops, that destroys our Cordillera de Los Andes, which is dynamited daily to extract from its entrails the gold, silver, and copper that foreign companies carry off, leaving us nothing but destruction and debris. We reject the pit mining that uses toxic substances, because it is an irreversible contaminating process that compromises our life and the life of future generations. We count on the support of people’s organizations that all across the country actively participate in the defense of our natural resources.

For an Argentina that is ours, populated by citizens with the right to decide their destiny, we ask the neighbors of Buenos Aires to accompany us on Friday, 1 June, at 1400 hours to Sarmiento 1251.

Self-convened of Calingasta in Defense of the Environment
San Juan, 29 May 2007

We turn the corner into Sarmiento Street to see the small crowd standing in front of the House of San Juan (see Figure 14 in Chapter 5). Pedestrians and bike riders stream toward us, the angling sun warming only the tops of stores and office buildings. In the narrow cavern below, we come within hearing range of the clapping crowd turned in on itself and the speaker. A woman talks urgently into the microphone over the intermittent sound of an electric saw blade. She lives in the high, semiarid Andean foothills of Calingasta; she wears one of the white T-shirts clearly labeled “UAC” (Union of Citizen Assemblies): “We care about the environment,” it says, amid other things. Behind her, the colonial house—pale pink walls, trim white cornices, black wrought-iron security fence, and arched doors—stands in as social actor for the absent governor, who will not receive the people’s angry message, either directly or through the ballot box. Two

guards watch from the open wooden doors, beside the freshly stenciled antimining graffiti.

All this conforms to the issue outlined in the invitation, but as I look around, the crowd's visual communication presents a puzzle. The people forming the solid outer edge, the most numerous and predominantly aboriginal in appearance, are all holding the same mechanically reproduced cardboard signs, attached to sticks, printed with white letters on a black background: "*Maldita EBY*" (Accursed EBY). After a few moments, I recognize and greet a few of the participants I met at the Tribunal and then recall the significance of the initials for Binational Entity of Yacyretá. The people of the river have merged their protest with the assembly of the mountain people. They must have abandoned their efforts to influence the Tribunal and joined forces with the assembly from Calingasta. The mass-media cameras and tape recorders capture the scene, picking up the silent visual message against EBY along with electronically amplified antimining voices. Together, the groups present a more powerful protest image. Gone are all the big white hand-lettered banners that I saw at the train shed and at the Tribunal. In addition to the Yacyretá folk, others hold colorful handmade antimining and anti-Gioja signs on sticks. National and check-board rainbow flags also bob above the people's heads, adding visual rhythm to the drumless crowd.

The woman speaking puts forth the case against mining and for pursuing the struggle and invites everyone to the next action in July. "Yes, everyone clap for our comrade from the assembly of Calingasta," encourages a heavy-set white-haired man in a beret who briefly takes the mike. He widens the discursive frame, bringing the two groups together with an explicit reference to water: "Water is special; here, exactly here, we are speaking the same idiom, the same language, as our companions from Yacyretá." Over his woolen jacket hangs a white canvas apron. Across his stomach stretch the words "No to Cyanide."

Then I notice a contingent with another performance style. Also wearing the canvas political aprons, a small group of young women porteños weave through the standing crowd, their bodies like moving billboards elaborate the crimes of José Luis Gioja and Barrick Gold. One woman wears a gag, transforming a political abstraction into a social interaction. Large video cameras of the press take in both carnivalesque and organized elements in the loosely choreographed scene.

As the first speaker moves around the ring of the performance space that the crowd makes in the street, she gives a one-on-one interview to a reporter while the man with a beret makes the aquatic-social justice connection. He in turn hands the mike to another, who sends rhetorical passion into crowd space, shooting words—sovereignty, contamination—that mobilize patriotic fervor: "One for all and all for one! All of Argentina, with humility, I say, together we will be victorious!" He leads us into battle.

In addition to signs worn or held, some attach to the building itself. The UAC draped one cloth banner across a wrought-iron window grate. A card-

board sign says, “NO TO CYANIDE, OUT BARRICK.” A hand-drawn picture on paper of five Andean peaks, like a poster you might see taped up in a middle school corridor, names the silhouettes of three mountains: Famatina, Mercedario, and Aconcagua. Underneath the picture it says, “Hurry Up and Visit the Cordillera in Extinction” and “Gioja and Kirchner Real Estate.”⁹

Stencilers have attacked the building’s face twice. One stencil says, “NO A LA MINA,” and another directly beneath it says, “SAN JAN QUIERE DECIDIR” (San Juan Wants to Decide). On other parts of the entryway, someone has painted in block letters “IS GIOJA AFRAID OF A VOTE?” Technically, the graffiti evidences petty crime, the illegal defacement of the House of San Juan, a National Historical Monument, as proclaimed by the official engraved marble sign at the entrance. The stencil repeats on the stone panels framing two arched and matching wooden doors and the sidewalk in front of them. Over the stencils, from top to bottom, someone spray painted “*REPRESOR*” (oppressor) from top to bottom in loose gray letters. Farther down the wall the anarchist’s circled A appears. In contrast to the temporary handheld, worn, draped, or taped-on signs, the graffiti thumbs its nose at the law. Its painters have not left revered architectural symbols untouched. Flirting articulately with legality’s edge and mirroring the counterdiscourse in the crowd, the uncatchable stencil makers up the demonstration’s ante.

All sides may flirt with il/legal boundaries and warping definitions of crime to shocking effect. For example, in retaliation for peaceful protest, Governor Gioja accused those who oppose him as being terrorists (Pardo 2007). And so contestation intensifies, spiraling in on itself until an *escrache* emerges. Assemblies from the Andes and the Paraná, art-activist allies from the University of Buenos Aires and the media combine their visual, acoustic, and embodied resources to bring to this narrow old street knowledge of water crises from the far northeast and the far northwest of Argentina.

At some point, it occurs to me that this event may provide a rare opportunity to actually talk to graffiti stencilers. I engage the young woman who wore the gag and the apron sign and she motions to another woman to join us in conversation. Members of their group claim responsibility for the graffiti, and I am anxious to learn more but fail in my attempt to set up a future meeting. At 2:45 or so, in the midst of conversation, I look up and get a quick shot of the action. Next time I look up, there are fewer people. When I look up from my notebook after writing down the conversation, *all* the participants are gone except for me and the disgruntled staff of the governor’s office. While we were conversing, the demonstration marched down the street, chanting and singing. The whole event lasts less than an hour, and as it happens, I would observe the aftermath.

The Scene After

I have missed the procession, and instead, I am caught watching the after-demonstration activities unfold. As soon as the protesters leave, two

women staff members come out to look and comment on the antiminining, antigovernor stencils painted on the housefront and then hastily return inside. (I wonder when the stencils were painted. They cannot have been painted in the middle of the day with everyone around. If they were painted the night or dawn before the demonstration then wouldn't the women have already seen them and done their cluck-clucking before they went to work, rather than now, after the demonstration?) As three or four well-dressed middle-aged white men and a woman walk in and out of the building, a guard fills them in on the events (presumably missed because they either were not there or were hiding inside). Their listening demeanor seems to express a dismissive attitude. "What a powerless, pathetic bunch of vandalizing nutcases," I imagine them saying. "Look what they have done to our beautiful building with their ugly, rude signs." Truth be told, the signs were sloppily painted; bloody red drips deface the national monument.

I cross the street to speak to the one of two guards who seems friendly enough. My status or identity is awkward because they clearly classify me with the demonstrators who have been loudly proclaiming that their boss is a tyrannical crook. Apparently having missed the demonstration, a woman rushes up and asks the same guard if she could see the flyer that was distributed. Of course, he did not have any, and on top of that, he responds rudely. She argues with him: "What is your problem? I am just trying to find out what was happening here." Overhearing the exchange, I show her my copy, which she reads hastily, and then leaves. Despite my suspect identity, I am able to have a conversation about the demonstration with the guard. Some days later, I type up the gist of our dialogue. Recalling the way the guard and another person exchanged derogatory head shaking and tsk-tsks over the stenciled signs on the sidewalk and walls in front of the entrance where we stand, I begin by offering the friendly guard a theory of anomie (Merton 1938):

KANE: These stencils are a means of communication for people who have been denied legitimate means.

GUARD: Poisoning the waters is indeed not a good idea. . . . [But he then offers various reasons for rejecting the demonstrators' means or authority, including the following example.] This mining thing has been going on for over ten years—why are they suddenly complaining now? . . . [I could tell him that powerful people purposely take forever to hear what powerless people communicate, and then when they finally cannot help but hear, they disingenuously ask what took so long and use the delay as a weapon against their victims.¹⁰] There is a right way and a wrong way to demonstrate. For instance, another group was very successful near here recently; they gathered, got signatures, and pressured legislators to change things.

KANE: I happen to have overheard the reaction of one of the men leaving the building. When you informed him about the dem-

onstration, he said to you, "Well, then, they should just vote!" But that is exactly what the protestors want! They want to vote on this issue. They've tried three times to have a referendum on open-pit mining. The governor has suppressed the vote. That's why they came to Buenos Aires.

GUARD: Well, they should go to the legislators then; they are the ones who make the laws that allow this to occur.

KANE: Well, the governor surely could play some role in this.

GUARD: Well, yes, there is always the problem of corruption.

By the end, I learn that his rejection of the demonstrators is not a rejection of their desire for clean water. It stems from an absorbingly ambiguous mix of emotions and rationales: loyalty to the governor, his employer; a dislike of the unruliness and intrusiveness of the demonstration as a political form; and a lack of cultural identification with the demonstrators, who (apparently) predominantly consist of a combination of aboriginal people and young activists. In this way, the priorities of destructive social forces subjugate the people's expressed desire for clean water.

Leaving the scene, I walk past a ceramic memorial embedded in the sidewalk with a painted list of names. The clay tablet faces a stairwell leading to an ordinary business on an ordinary street, Libertad (Liberty), not far from the famous Obelisk marking town center. The painted sentence beside the list of names explains that those whose names are inscribed there were disappeared into this building during the last dictatorship, never to be seen again. In other words, the tablet marks this space as *once* the quintessential space of fear: Professional torturers worked here, an existential fact that would give one pause under any circumstances, no? Like stencil graffiti but consecrated and legitimate, the tablet shares knowledge and evokes empathy from any passersby willing to take a microsidestep off their routines to engage in the act of witness. I feel a subtle change in the quality of the air, a pulsing in the atmosphere of risk. The clay tablet is a precise, handmade tool quietly marking the crime scene of official serial killing amid the everyday. Given the double focal points of this day's action—*island homes lost under a reservoir and Andean mountains crushed, their waters poisoned—the violent strands tying disappeared people, disappeared water habitats, and disappeared democracies converge.*

Information and Image Control

Miguel Mato, who succeeds in masquerading as a PR person at a privately policed Barrick Gold conference in its luxurious mining complex in San Juan for two days before being caught, shows scenes he filmed there undercover. The film's title, *Espejitos de Colores* (Little Mirrors of Colors), refers to the trinkets the conquistadors used to steal aboriginal territory. In the documentary's opening scenes, corporate executives, Governor Gioja, other politicians, and mining engineers, all blank-faced white men

in suits accompanied by a bevy of ripe young women in gaucho hats, present mining accomplishments with professional calmness, celebrating environmental destruction with a champagne toast.¹¹ Lavish big-screen images of mountaintop removal make sensational backgrounds to their self-congratulatory accomplishments, their vision of national development. It is enough to make one want to go out and stencil graffiti on a national monument, a desperate communicative act with a slim chance of provoking public discussion about the asymmetry of power and the relative harm in the realm of the il/legal. Talk about ecological footprints!

To be fair, one should consult Barrick's website, which projects assurances to shareholders as firm and convincing as BP's before the Deepwater Horizon disaster.¹² Somewhere between the facts and fictions of neighborhood assemblies and mining companies figure a series of truths, misunderstandings, and lies. These can and should find resolution via empirical examination by taking into account the social experience of local habitats, as well as independent scientific findings in hydrogeology, toxicology, ecology, and the biology of open-pit mining's impact (i.e., the technical matters). That said, either implicitly or explicitly, the researcher approaches the data of corporate representations of self and other with a view toward ethics. In this case, following Antonelli's (2010) analysis, I sustain a keen awareness that Barrick, like Argentina's last military dictatorship, operates in and through a culture of incontrovertible impunity. Conference presentations of mining's expansive accomplishments combine with websites purportedly debunking activist knowledge as wrong, unsophisticated, or ignorant. In such ways the company attempts to erase culturally diverse and locally situated forms of knowledge from public discourse as well as inconvenient scientific data, the better to substitute them with habitat-destroying business models perversely rekeyed in the tune of development.

This chapter faithfully represents the perspectives of variously situated water activists; any discrepancies between my representations and theirs are the result of unintentional error or insufficiency on my part. Thus, the analysis moves along the political surface of things, only dipping into the complexities that, though beyond the scope of this book, underpin and enrich events, from the personal histories of participants who fight environmental crime to the complicit shenanigans of international banks, courts, and companies. However, even long-term fieldwork in one place that provides an opportunity to dig deeply does not liberate researchers from the burden of choosing a stance. In an interview with me, Leopoldo Bartolomé, director of the Postgraduate Program in Social Anthropology of the National University of Misiones, shares an approach that comes from long experience:

Doing research is complex. Because people are wise in concealing information, it is difficult to obtain hard data. You must work from impressions—"Ha, ha, ha, we are going to steal everything." You must give the most credence to people who complain strongly—something went wrong—and be open to seeing things as best you can. You must give more weight to the complaints.¹³

Hired by the World Bank to study the forced resettlement issues resulting from the Yacyretá dam, Bartolomé's language was censored by the bank, which ultimately suppressed his reports, although he published findings in some scholarly venues.¹⁴ In our exchange about the obligations of technocratic institutions like the World Bank and EBY to prevent and resolve environmental justice problems, he explains that in practice, for example, at conferences, if and when such subjects are raised at all, it tends to be "after the wine."

Postscript, June 19: The decision came down from the Supreme Court *against* the people from Yacyretá. In a tower high above the restaurants of Puerto Madero, the officials in the Buenos Aires headquarters of EBY will no longer be required to respond to the petitioners.¹⁵

Military Intrusions and Riverine Sentiment: The Geopolitics of the Paraná River Basin

The Scene on the Ground

Does not hydroelectric power represent a small monstrosity compared to other possible energy sources?

—ROMINA ZULPO, social worker, EBY, Posadas

We cannot stand this jungle of cement houses. If you look from these houses one way, it is all cement. If you look the other way, it is all cement. And everywhere, it is all one color. We don't want the things of this other world.

—WOMAN FROM THE COMMUNITY OF EL BRETE, protesting in Plaza 9 de Julio, Posadas¹⁶

As a social worker hired by EBY to help relocated families, Romina Zulpo mediates tensions between the good and the bad.¹⁷ "Isn't hydroelectricity the least bad, the cleanest, and most available of energy sources?" she asks. If one were to have the luxury of contemplating this question *before* construction, it would be clear that the Yacyretá hydroelectric dam was never the best economic solution to Argentina's energy needs. In his in-depth ethnography on its construction, *Transnational Capitalism and Hydropolitics in Argentina*, Gustavo Luis Ribeiro (1994) finds that rather than contributing to development—if "development" includes a significant set of livelihoods designed with local participation and sustainable over the long term—Yacyretá is better understood as "an outpost of economic expansion" founded with a militaristic vision of "geopolitical importance" (163, 42). In this outpost, the difficulties of restoring, much less improving, the lives of the displaced and otherwise affected are daunting.¹⁸

From the perspective of those working for EBY, such as the head of resettlement, Lito Almirón, who must separate just claims from unjust claims, or for those like Leopoldo Bartolomé, who evaluated initial phases

of the relocation, difficulties abound. In my interviews with these anthropologists in their respective offices on June 26, I hear many examples. Here is a sampling: How does one establish who is Guaraní from those who only say they are? If they are Guaraní, have they lost their homes or just their sacred places or firewood collection sites? Whose claims are legitimate, and who are assuming “convenient identities” inspired by lawyers seeking commissions?¹⁹ “Reconstructed identities” proliferate as more fishermen and laundresses appear than there ever were in the river before the dam. Can the son of a fisherman or the granddaughter of a laundress rightfully claim compensation for a lost livelihood that *might* have been his or hers had the family not been displaced from the river? EBY has operated in the region for so long that multiple compensation programs have been enacted in sequence; the differences between them generate rights and demands for houses of equal value.²⁰ Can you even separate the confused from the fraudulent, the families who did not get counted in the 1979 census from those who migrated in afterward? To quote Zulpó once more: “If you are in a situation of poverty, you will use every manner of acquiring resources. The ‘just causes’ get lost.”

Or to turn the tables, can you find people to regulate foreign contracting companies when everyone with sufficient expertise either already works for them or would like to? Can you hold up the implementation of large projects if the chief project engineers completed 98 out of 100 requirements even when the missed ones happen to be those related to international bank requirements for assessing social and environmental impact? Can you restrain, or retrain, those with responsibility to authorize implementation when their empathy, their personal kinship, lies with the project, not with the people who will be affected by it down the line?²¹ Such are the strains of legitimacy and illegitimacy one can hear in the background of every protest.

Encampment of the Affected outside EBY Offices in Posadas (Scene 1)

People set up an encampment in the narrow street in front of the EBY office building.²² It is dark. They are drinking maté, watching TV, or lying on bedding inside a big blue tent. After the interview inside EBY with Almirón, I stop to talk to three or four men standing by the cooking fire. They introduce me to an elder, their spokesman.

KANE: We met some of the affected people who had come down to Buenos Aires to protest in front of the Tribunal. We have also been inside to talk to EBY’s resettlement people.

SPOKESMAN: What did the people inside say about us?

KANE: They say that due to the length of the project and the many changes in benefits over the years different expectations were created.

SPOKESMAN: EBY is a big bureaucracy that lies to the people and purposely creates confusion among us.

KANE: What are you asking the company for?

SPOKESMAN: We want compensation for poor or incomplete work on our houses, for example, a proper cement wall along the outside boundary, floors, and bathroom tile. We have been encamped here twenty-five days. Yesterday, many of the families left after receiving compensation, and those of us remaining are going to stay until we get ours.

KANE: I hope to come back tomorrow to speak with you again. [It has been a long day, and it is cold and raining.]

SPOKESMAN: We are here twenty-five [*sic*] hours a day. If you see that our encampment ["the tent"] is gone, then you will know we have been paid and have gone.

Because of time constraints, I never continued this conversation, but on a tour of the "complementary works" (quoting the handwritten petition) and the resettlement areas, proposed and accomplished, the social workers point out the section of houses in question. Given the sustained course of action required and the opinion of the EBY social workers, who find the demands reasonable, I am struck by the modesty of the protestors' claims. Moreover, in this case, it seems that EBY co-opts the repertoires of resistance, incorporating them as a mode of routine bureaucratic interaction. EBY *expects* a certain recognized class of relocated people to perform their claims out on the street, and the relocated people comply, setting up the politically symbolic camping tent (see Guano 2002: 312–314). EBY's demands resemble those of customs police who expect smugglers to perform a border charade of dominance and subordination before letting them cross with their contraband (McMurray 2003).

Legal History

The following chronology²³ shows the major steps in the strategic transformation of riverine ecology and social life into energy infrastructure. It also shows how, in contrast with the preponderance of foundational military lawmaking, the resettlement policies that affect the river people (displayed in *italics*) appear as afterthoughts.

International Military Agreements in the Chronology of Yacyretá Construction and Population Relocation

Pre-Columbian Guaraní and other aboriginal people live along natural river courses without international boundaries.

1494 The Tordesilhas Treaty draws a longitudinal line around the globe that cuts off the eastern lobe of South America for Portugal, leaving

the rest of the continent to the Spanish. Brazil has long exceeded this geopolitical limitation, and even in the twenty-first century it is not an uncommon perception among Spanish-speaking South Americans that Brazil is an imperialist state (Ribeiro 1994: 43).

- 1954–1989** General Alfredo Stroessner rules as president and dictator of Paraguay.
- 1960s–1970s** Brazil and Argentina vie for territorial dominance over the Río de la Plata River Basin and Paraguay. Brazil builds several hydroelectric dams on the Paraná (Da Rosa 1983; Ribeiro 1994: 42).
- 1964–1985** Brazil under military rule.
- 1971–1973** Initial Yacyretá feasibility study carried out during the Argentine military government of General Alejandro Lanusse. This is the first determination that the alignment of the dam would require flooding a greater proportion of Paraguayan territory than Argentine.
- 1973** Military governments of Brazil and Paraguay sign the binational treaty to build the world's largest dam at Itaipú on the Paraná River. Military governments of Argentina and Paraguay sign the binational treaty of Yacyretá, also on the Paraná. The treaty is a fairly direct transposition of the Itaipú treaty (Ribeiro 1994: 43).
- 1973–1974** A contentious bidding process for Yacyretá's final design, involving only European and North American engineering firms, continues into civilian rule and the presidency of General Juan Domingo Perón (Ribeiro 1994: 36–37).
- The first public announcement about the Yacyretá dam and of resulting relocations occurs* (Bartolomé 1984: 188).
- A provincial law imposes severe restrictions on house and property sales in areas to be flooded, but as most people are squatters, they regard the law as yet another vague threat associated with their illegal tenure* (Bartolomé 1984: 188).
- 1976–1982** The final dictatorship of Argentina coincides with almost seven years of bidding, which tendered EBY for the main contracting job. Ribeiro writes, "EBY's decision to award the contract was undoubtedly made considering the imminence of the new constitutional government. It was formalized less than two months before the election of the new civilian rulers" (1994: 39–40). The World Bank and the Inter-American Development Bank supervise the bidding process and the legal solution—an ad hoc consortium of thirty-two contractors (38–40).
- 1978–1979** *A law against reconstruction at the river's edge is passed, but even the government does not respect it. In 1979 the military government settles in the flood zone Laotian refugees from the aftereffects of the U.S. war in Vietnam.*²⁴

- 1979** The military governments of Paraguay and Argentina (headed by Stroessner and Jorge Rafael Videla, respectively) sign an agreement under which future Argentine energy consumers would repay Paraguay for the disproportionate flooding of their land. In addition, several “complementary works” would be constructed, most prominently a 2.5-kilometer bridge connecting Posadas, Argentina, with Encarnación, Paraguay, two cities about 100 kilometers upstream from the dam.
- Military rulers of Brazil, Paraguay, and Argentina sign a Tripartite Accord controlling how much each country can use hydroelectrical engineering to change the river levels.²⁵
- Activities related to relocation are initiated, starting with an exhaustive census in the World Bank–defined “affected areas” of the Yacyretá flood zone* (Bartolomé 1984: 188).
- 1982–1983** *Exceptional, natural flooding of the Paraná forces many to flee the affected areas* (Bartolomé 1993: 118n7).
- 1983** Yacyretá construction begins. Argentina’s new democratic government has to respect the contracts that the military signed.²⁶
- The first set of relocations targets forty-four families living on the site of the future international bridge Posadas-Encarnación* (Bartolomé 1984: 188).
- 1989–1995** President Menem and the World Bank draft and implement free-market ideals, including tying the value of the peso to the U.S. dollar (Silva 2009: 58–59).
- 1990** In a clear instance of the pot calling the kettle black, President Menem famously calls Yacyretá a “well of corruption.”²⁷
- 1994** Yacyretá’s first hydroelectric generator comes on line.²⁸
- 1995–1996** The state stops overseeing the Yacyretá project, and then the project activity stops.²⁹
- 1995–1999** Protests against neoliberalism increase in number and style. *Piqueteros* (popular assemblies) and *puebladas* (town uprisings) challenge politics-as-usual (Silva 2009: 74).
- 2001** Economic crisis and mass mobilization occur in Argentina (Silva 2009: 56).
- 2007** The dam operates at 65 percent of its energy potential. The complementary civil construction works, funded by the World Bank, are about to be completed, as is the final raising of the water level behind the dam, from seventy-eight meters above sea level to eighty-three meters above. The additional five meters of water should result in a rate of electricity production matching the original goal. Beyond electricity and civil infrastructure (Posada-Encarnación cable-stayed bridge, roads, coastal defenses, and the recomposition

of streets in the city grid)—and last on the list—the goal is to improve the lives of inhabitants by providing community kitchens and community services in health, education, security, potable water, and sewers.³⁰

The chronology shows how Latin American militaries and international financial institutions use the law to wrest control of rivers and transform ecological habitats into strategic waterways. One can discern the reproduction and circulation of models and frameworks (treaties, laws, contracts, and engineering plans). Furthermore, as evidenced by the 1979 Tripartite Accord against the use of water and water engineering as a weapon of war, events reflect the anxiety that undercuts the cross-national patterns of military cooperation.

In his work on large-scale projects, Ribeiro identifies a general feature that is characteristic of the Yacyretá dam, one that applies also to the Andean mining ventures of Barrick Gold: they produce *juridical ambiguity*, creating specially regulated territories in which powerful institutions involved in production processes exceed the power of nation-states to prosecute them for crimes.³¹ The shipping industry has long enjoyed the juridical ambiguity of navigable waterways, including rivers and oceans.³² Lawyers continually construct instruments to extend this principle. The middles of rivers that wind between two nations have traditionally been relatively law-free zones. States and corporations expand law-free aquatic zones now by turning rivers into binational lakes, as in the Yacyretá case, or by freeing the law-free concept from its aquatic limits by pushing back and then blowing up the international boundary lines that follow the tops of mountain chains as in the case of Barrick Gold. In particular, EBY operates in the binational zone of the lake behind the dam and claims special juridical status. Barrick Gold claims binational territory straddling the Chilean-Argentine border high in the Andes Mountains.³³

In the introduction to the book they edited about resistance to transnational mining operations in the Andes, Maristella Svampa and Mirta Antonelli (2009) discuss how national governments write their own exclusion into constitutional reforms and legislative actions, creating juridical norms that authorize the exploitation of national resources—as means and end, as water and precious metal—by private companies like Barrick that are not averse to violent geographic interventions.

This comparison of large-scale projects raises two sets of questions for me:

If, before their demise, criminal states ruled by military dictators produce monumental infrastructure (such as the Yacyretá dam) that, in its current form, is socially and environmentally only half bad, how should it be judged? How can the law rebalance decision-making processes so that local people and their allies can create water management protocols that

incorporate cultural difference, social justice, and scientists committed to working with the precautionary principle?

If technically legal corporate enterprises (such as Barrick Gold) were measured against a double metric of ecological harm and social justice, fell short, and thus felt the tightly regulating hand of government or suffered prosecutorial weight for reasonably proscribed environmental and human rights crimes, where would we start with prosecution? Where would it end?

From Riverbank to Street: Voices of the Displaced

For the people inhabiting expropriated spaces, the juridical ambiguity created by binational territories tends to work against them, stealing not only their rights to clean water and healthy ecosystems but their intergenerational way of life and livelihood. To return to Yacyretá: The urban poor inhabiting river flood zones are especially vulnerable when uprooted, as Bartolomé finds, in part because of the particular ways that traditional survival modes anchor cognitively to specific spaces (1984: 190). Yet people must recuperate or abandon riverine lifeways as best they can when the ties to place come under attack or threat. For Zulpo, who helps families cope with the transition into an urban resettlement zone of 1,600 families, issues are never simple. After all the negotiation and considerable game playing on both sides, she concludes, "All is not lost, but all must be resignified." In the new, strained collective imaginary, EBY represents both a bad and a good reference point. On the one hand, EBY ruined lifeways on the river, and on the other, its bureaucratic presence for over twenty years provided a more stable resource than the ever-changing national government.

The Encampment of the Affected outside the EBY Offices in Posadas (Scene 2)

Jason and I come back to EBY late the next afternoon to meet two social workers who will take us on a tour of the Posadas-Encarnación Bridge, areas slated for flooding as the lake level rises, and three resettlement zones.³⁴ As we wait for late drivers, the encampment scene we had stepped into last night unfolds before us again: Chairs line the wall of the EBY building and people sit and drink maté. In the space between the building and the street, blocked off to traffic by the big tent, the crowd exceeds last night's numbers as it swells to over twenty adults and children of both genders. Two fires consume urban waste: mostly wood and some metal, and then someone throws on a rubber tire, which a woman elder immediately orders off the pile. The fires smoke horribly. Although blowing downwind of us, smoke blows into homes across the street. I comment on the inappropriate burning materials. The social worker says that the neighbors have complained to no avail about the terrible smoke. In any case, the scene has a sound track: A small boy with a small drum and a tall blond adolescent

with a big drum bang away with sticks, seemingly having a good time as they attempt to create carnivalesque cacophony.

Besides the semiroutine nature of the encampment, the negative effects that the polluting fires impose on the surrounding neighborhood create further ambivalence in my mind about the procedure that protestors—or more precisely, *claimants*—use for confronting EBY. The ambivalence reminds me of my feelings about the ritual practitioners in Itapuã who leave the plastic wrappings (unintended garbage) of their offerings beside sacred springs. Perhaps this betrays a certain overenthusiasm on my part for purity of purpose in rituals meant to alleviate harm, at least for practitioners who extend their mindful acts beyond the most immediate goal. Then again, in the moment I observe here, the elder woman intervenes to do precisely that.

Tour of Yacyretá Dam, Ituzaingó, and the Binational Territory, July 28

On the 7 A.M. bus from Posadas to Ituzaingó, the man sitting behind us rustles plastic bags nonstop. When the federal police stop the bus at the checkpoint about an hour into the ride, they thwart his attempt to smuggle electronic equipment between Argentina and Paraguay. The police find a remote control and other small goods tucked into and under various seats and seat pockets. They confiscate the merchandise and let the smuggler continue on his way. In the meantime, they politely ask for our passports twice. When we get to Ituzaingó, we take a cab to the EBY office and meet a PR man who borrows the director's car to take us on a special tour, but not before we watch an introductory 1989 video.³⁵ From it, we learn that a Panama Canal-size lock enhances the dam's navigability, allowing container ships to vertically traverse an eighteen-meter drop between the lake and the river below. After the film, we drive twelve kilometers to the dam on the island of Yacyretá, passing through checkpoints where guards check our passports again before we enter binational territory, thus becoming exceptions to the no-public-access rule. Our tour begins along the sixty-seven-kilometer road (technically two bridges) along the top of the dam and includes a visit to the turbines and central control room, where we meet the chief, a hydroelectric engineer. My questions about water reflect the concerns of those whom I met in the train shed back in Buenos Aires:

KANE: Could you tell me about the contaminated water stagnating in front of the dam?

CHIEF: There is no stagnating water. The water goes through the turbines to generate electricity. Indeed, the water is less contaminated now than before because of the new sanitation systems in the cities upriver.

KANE: *If* contaminated water were a problem, might the increased water pressure that will result from raising the lake level also

increase the possibility that contamination may invade the aquifer below?

CHIEF: This is not possible because, I think, the aquifer is hundreds of meters deep and separated by rock. But you know I am not that kind of engineer. You should be asking these questions of the Environment Department.

KANE: Well, I am interested in the various perceptions people have about how the dam and hydroelectric systems work. Besides, it isn't so surprising that common folk have misperceptions, if they are misperceptions, about water contamination given the language used by EBY professionals. For example, you yourself use the term *agua parada*, "stopped water." Is there some technical ambiguity here?³⁶

Clearly, the water that flows through the turbines constitutes only a portion of the river's volume, much of which stops behind the dam, as the term *agua parada* suggests. I have taken this conundrum as far as I can in this context, for our guide quickly ushers us off. All along the route, plaques honoring the lists of corporate enterprises invested in the project hang dutifully. But as we leave the vast space of turbines, I cannot resist commenting on the plaque of the infamous privatizer of national resources, President Menem. Our guide explains that Menem joins a pantheon of Argentine presidents who begged, borrowed, and stole in the attempt to have the dam finished during their terms, including the current president, Nestor Kirchner.

Coming out of the powerhouse, we gaze at the vast expanse of water. Our guide points out two buoys that mark the old frontier, which as frontiers do, follow the old navigation channel in what was the deepest section of the river. The buoys mark history: "Now," our guide says, "there is no frontier." Then he turns proudly to the special fish gate to assist fish past the dam's artificial gradient. As scientists learned, the gate does not assist fish, but it persists as PR. Afterward, we dine together in a genteel restaurant on a delicately cooked *surubí* (*Pseudoplatystoma coruscans*), one of the species of fish that once swam freely in the Paraná and whose name some daring person graffitied on a precarious place along the huge wall supporting the navigation lock (McCully 2001: 52–53; Oldani et al. 2007).

Folk Engineering and the Power of Water: Notes on the Industrial and Symbolic Functions of Water

Extracting

Aquifers and glaciers in the Andes Mountains store much of the continent's water. Mining critics claim that the gold the mountains still contain does not aggregate in seams but is dispersed, which invites mining companies to

destroy mountains in search of real and imagined precious flakes. Mining companies like Barrick blow up the mountains and mix the remainder with toxic chemicals, drawing water from surface or underground sources, extracting and exporting enough gold to create the illusion of more gold to come among global stock market investors.³⁷ And thus megamines appropriate water resources in the extraction process, using water flow to suspend and dissolve substances. Until recently, the depletion and poisoning of this essential and irreplaceable resource has gone into ledgers as a mere side effect of doing business, an “external cost,” which mining companies slough off on a generally complacent public and onto future generations. The president who followed Nestor Kirchner has no problem with this arrangement: On November 14, 2008, Cristina Fernandez Kirchner (wife of Nestor) vetoed a bill that would have protected Argentina’s glaciers from mining and oil drilling, claiming that it would give the environment excessive consideration (Popper 2008). (The move resonates uncomfortably with the U.S. government’s il/legal facilitation of BP’s deepwater drilling that led to 2010 Deepwater Horizon disaster in the Gulf of Mexico.) However, mining critics have had some success in changing the milieu in which companies do business and even in changing their practices.³⁸

Pushing

The Yacyretá hydroelectric dam depends on the great pushing power of the Paraná River. Cement walls of “pharaonic”³⁹ proportions stop the river, forcing it to move through and turn the blades inside a row of turbines, thereby transforming water’s flow into the flow of electrons shuttling down the wires to Buenos Aires where, for example, they light up computer screens on which investors trade energy stocks. To function in the turbines, the water need not be clear of toxic chemicals, but it cannot carry too much garbage without mucking up the works. And over time, silt, which has been moving down the Paraná to Buenos Aires throughout the Holocene, mounts softly behind portions of the wall, slowly filling the lake that the river was forced to leave behind.

Connecting, Dividing, Abstracting

While governments facilitate navigation of the great rivers by canalizing all their tricky parts,⁴⁰ contiguous states use them to mark territory and to order the social imagination of sovereignty. Appropriating water’s linear character as it moves across the earth’s surface, cartographers trace riverine pathways, transforming them into semiotic signs that index legal divisions. As abstractions, cartographic boundaries enable the establishment of *strategic differences* in law and policing.

The Paraná-Paraguay Waterway, for example, provides Paraguay’s only access to the ocean (see Figure 1 in Chapter 1). Where hydrogeography and infrastructure are conducive, I daresay the language and enforcement of

custom regulations enhance the movement of contraband. Two key sites along this chapter's route stand out: Ituzaingó and Iguazú. Ituzaingó, Argentina, now connected by two bridges across the binational territory to Paraguay, acquired its notoriety because of commodity smuggling (Ribeiro 1994: 88). Its reputation precedes the dam by a couple of hundred years, during which time Ituzaingó's transshipment harbor (south of the Apipí Rapids) serviced cargo, passengers, and contraband moving between the hinterland to Asunción or Buenos Aires.

The majestic Iguazú Falls, a UNESCO World Heritage site, is the one remaining place where the Paraná sublimely reveals its free-flowing power and energy. (See Figure 19.) Before returning to Buenos Aires, Jason and I travel up to the farthest corner of northeast Argentina to see it. On the Triple Frontier with Brazil and Paraguay, we roam around the town closest to the falls that we could without visas, Puerto Iguazú. It occupies a commanding position at the confluence of the Iguazú and the Paraná.⁴¹ This confluence in the continent's remote interior might suggest a kind of juridical proximity (if not ambiguity) inviting to organized crime, narco-traffickers, and small-time smugglers. And indeed, these criminal categories have long colored the region's reputation. But as Carmen Alicia Ferradás's (2004) research reveals, the discourse of global (in)security and accompanying police-military action rework national boundaries in strange and unexpected ways. Between former U.S. president Bush including the Triple Frontier in his antiterrorist campaign against the axis of evil and environmentalists attempting to create poor-people-free supranational green zones to protect the Guaraní aquifer, the industrial appropriation of water's power in the form of hydroelectric dams and open-pit mines seems almost quaint. Untamed by mining or energy markets, the military-industrial complex abstracts the symbolic wildness of Iguazú Falls and its environs, though not without popular resistance. But that is another story.

Knockout in the Holocene

What humans do in one part of the earth's system intersects with what they do in others, producing cascading effects that alter the biosphere to such an extent that we have knocked ourselves right out of the Holocene and into the Anthropocene (Crutzen 2002). Ecological complexities abound, as do the cultural frameworks that pull us backward into thinking that we stand apart from nature, or that law always opposes crime, or that militaries engaged in war and dictatorship, though condemned for human rights violations, remain outside the circle of those deeply implicated in environmental destruction. But culture, ever in process, always carries the seeds of change. Working from inside and outside particular cultures, artists and activists nudge the edges of habitats and habitus toward transformation. On the street, in art galleries, and in remote earth sites, artists mine and prompt the political unconscious toward new ways of imagining the relationship between humans and planet (Fox 2009). At the same time,



Figure 19. Iguazú Falls at the Triple Frontier. Photo by C. Jason Dotson.

activists seek to limit the damage caused by political unconsciousness. From the missing and destructive engineering in Greater Buenos Aires to the militarized Triple Frontier at Iguazú Falls, to the assassination of Antonio Conceição Reis (one man fighting for a small lake), this study of aquatic culture forces a conversation about water that juxtaposes eco-blind models of development and geopolitical strategy with patterns of cooperation emerging from Argentina's neighborhood assemblies (see Dalby 2009: 152). Although punctuated by disaster, environmental degradation tends to happen over the long term in the course of routine economic activity (50–51). Whether mundane or horrifyingly dramatic, the harmful acts that degrade the environment should join the gallery of globally recognized vicious behavior, acts as violent and intimate as street assaults.⁴² If only we could see them that way.

9

Conclusion

Robust, down-to-earth, technical possibilities for constructing new regimes of infrastructural sanity exist and new ones can emerge and flourish. Survival on earth depends on the reformulation of skewed hierarchies of development. We can survive without oil, but we cannot survive without water. How we approach the fundamental shift away from hydrocarbon-dependent cultures will determine our fate. And yet, in tandem with military weapons, petrochemicals, and radioactive materials, misused concrete structures continue to be produced in the face of radical ecological uncertainty; this existential dilemma intensifies as intervention assumes the scale of landscape. In 2010–2011 alone, as I write, massive environmental disasters pour oil and radioactive isotopes into rivers, deltas, bays, and oceans while, against massive and long-standing protests, both Brazilian and Chilean governments move forward with monumental hydroelectric dam projects in Amazonia and Patagonia; and even after the BP disaster, the U.S. government lifted the moratorium on deepwater oil drilling.¹

From the effects of long-term exposure to toxic substances on frog sperm formation to the contorted river and ocean migration paths of fish and cetaceans, scientists can demonstrate, warn, and appeal to the force of law but never fully apprehend or manage the risks we take and the harms we cause. Water is not only essential but infinitely complex, mysteriously inside and outside living beings; its quantities are finite and its treasured qualities vulnerable. This is why ecologically appropriate versions of the precautionary principle must be discovered and made manifest *for specific types of habitat and cultural conjuncture* and then applied to flexible models of infrastructure design and

construction. I believe that the conceptual sources of collective invention needed to implement the precautionary principle can be found in a dynamic negotiation between technically assessed and globally circulated best practices, on the one hand, and the “different cultures of nature” (Gandy 2003: 13) that animate the human-water relationship in particular places, on the other hand.

Thanks, Curses, Prayers, Posters, Petitions (Images)

Devotees visit an inner sanctum on a peninsula above the Bay of All Saints where life-size plastic legs and arms hang from a church ceiling above photos of hydrophilic saved persons; others visit a cool dark remnant of a monkey forest, bringing spiritual offerings to the spring. In bars and restaurants, folk from near and far consume the waterscape as they savor seafood and beer, deeply floating in the unthought known. A group of displaced river people stand in a public square, eyes raised to the windows of judges above, their protest banners flapping in the cold wind. Shipping containers from foreign ports glide in and out of bays against blue-green maritime hues; the red, green, blue, and yellow boxes command some transient notice by the distant, collective eye of high-rise inhabitants who may or may not suspect that the ordinary-looking containers conceal dangerous or illegal entities. Although arbitrary, this small selection of images—cultural in the most superficial sense perhaps—encode prediscursive signals of aquatic meaning mobilized and globalized for complicated ends. It may seem odd that such subtleties and quirks or the passing strange might be included in a conclusion. But paradoxically, because harms associated with particular practices intensify and elude attention when they generalize and dominate aquatic spaces—that is, when destruction itself is naturalized—it becomes difficult to untangle the right and wrong of things without noticing the shadows of discourse, the things left out, where the uncanny meets the mundane and the mundane meets environmental crime.

In any case, after all this talk, these discursive juxtapositions emanating from salient aquatic locales, it is clear that with persistence, nuance, courage, access to communication technologies, democratic governments, good practical ideas, incisive critique, and organized protest, people can effect change.² Each water habitat deserves spiritual tending and legal protection as well as scientific data and eco-attuned technical management. This book includes examples of care for waterscape: the waterworks engineers and laborers who ensure municipal potable water supplies meet international standards and consistently reach as many persons as possible; state-of-the-art, mandatory, environmentally savvy industrial waste-treatment centers such as Cetrel outside Salvador; multinational shipping corporations that have adopted international environmental standards and design docks and gantries to prevent river and ocean contamination by toxic liquids;³ city residents who create organizations and stage events to bring activists, lawyers, journalists, and political allies together to save

interfluvial spaces; artists who transform dead harbors like La Boca into spaces for imaginative play; and not least, engineers and officials who share knowledge of systemic sanitation failures along archaic port-city edges.⁴ As far as I can see, where democratic decision making guides the infrastructure-ecology interface, there is no preordained divide between technical and humanist solutions. While we are not at the point, yet, where artists are taken as seriously as engineers or where corporations value survival of sentient beings and aquatic habitats, it could happen, could it not? This is not really as utopian an argument as it seems, or at least, I believe it invokes a practical utopia in which an eco-savvy infrastructure mediates the human relationship to water.⁵

Message from an Agent of the Anthropocene

My life is mere impulse, oriented by intent and organized aquatically. I am an agent of the Anthropocene, as consequential as a subatomic particle or rowboat in open sea. My kind has thrown the Holocene off its hydrogeological track and may be at the point of cosmological dereliction.

I have a few practical suggestions for scholarly and social action: Rewrite legal codes to converge and prioritize environmental and social justice issues. Do fieldwork with the goal of empirically describing and interpreting significant parameters and queer insights that will situate and guide the materialization of locally devised precautionary principles in eco-criminal hot spots like port cities. Dig amid the existential layers of understanding; listen to the identified stakeholders; and then move them to the background while speaking to folk of diverse talents, skills, professions, and problems, many of whom are likely to have less governmentally ordained power but greater intimacy with nature than the chosen or self-selected few. Implement the law while keeping in mind subtle structures of human feeling and echoes of cataclysmic climates. Create practical openings for scientific insight, artistic passion, and neighborhood commitment. Impossible? Then start with the obvious: Enforce current national and international law to hold military and industrial forces culpable for the assassination of world waters while resolving predicaments born of eco-blind jurisdictional constraint.

Where rivers meet the sea and the cities, diverse cultural conjunctures continue to thrive even while killing their context. An abiding need and sometime reverence for water eternally animates these peopled places. Inhabitants speak through language; act according to and struggle against custom, knowledge, and power; and so transform their worlds, our world. How, where, and when this reality rises into general, collective consciousness and conversation is an open question.

Glossary

BRAZILIAN PORTUGUESE

acarajé: traditional food made with black-eyed-pea cakes fried in dende palm oil
aguadero: water carrier (in times past)
Bahianas: women from Bahia
barraca: beach shack, hut, bar-restaurant on the beach
barragem: dam, barrier
barreiras: coastal geologic formation composed of rock or clay
bica (fonte): water tap, fountain
cacimba: cistern (in times past)
Candomblé: Afro-Brazilian spiritual tradition
Carnaval: Carnival
Ciclo da Festa Popular: Popular Festival Cycle (also Summer Festival Cycle)
favela: irregular settlement, shantytown
festas: parties, celebrations
lavagem: ritual washing of steps that is a part of Popular Festival Cycle
lençol freático: water table
lençol subterrâneo: confined aquifer
olho d'água: eye of water, rain-fed lake
orixá: Afro-Brazilian divinity
outorga: permit
padrões: legal limits
palafita: stilt house
quilombo: community, federation, redoubt of escaped slaves
redes: networks, systems
restinga: ecoregion in northeast Brazil, sand dunes with shrubs and low forest

ARGENTINE SPANISH

agua parada: dammed water
aguatero: water carrier (in times past)

aljibe: cistern (in times past)

aquifero: aquifer

campesino: peasant

coventillo: tenement

hectare: unit of land area (1 hectare = 2.47 acres)

maté: tea from Yerba maté, *Ilex paraguariensis*, A. St.-Hil.

muerto anticipado: genocide (lit., anticipated death)

napa freática: water table

obras: public works

originarios: aboriginals, indigenous people

persona jurídica: juridical person; person with legal standing

personaría: group of petitioners

piqueteros: activists who block roads and bridges as a political tactic

porteño: person from Buenos Aires (lit., person of the port)

pozo negro: septic tank (lit., black well)

ribera: riverside

saneamiento: sanitation infrastructure, plumbing

sudestadas: southeasterlies

vecinos: neighbors

villas: irregular settlements, shantytowns

Notes

CHAPTER 1

1. I draw on Jean and John Comaroff's (1991: 5) definition of the state and Lazarus-Black and Hirsch (1994: 1) to think about how people use law to reshape oppressive states. See Rademacher 2008 for analysis of how state power works through modes of violence and governance in urban riverine territory.

2. This insight came from various sources but primarily from walking interviews with artist and city planner Maria Luiza Mendez Lins in Olinda, December 28, 2006–January 4, 2007, and in Salvador, February 28, 2007; with environmental activist Antonio Conceição Reis in Salvador, January 8, 2007; and with friends in Guarujá, October 15, 2006. Except where noted, all interviews were conducted in Portuguese or Spanish; transcripts are based on my translation to English. Most interview material presented is based on typed transcriptions of handwritten notes. I rarely tape-recorded interviews because I find that recording tends to restrict the interviewee's talk.

3. For recent scholarship on water and cities see, for example, Gandy 2003; Meyer et al. 2010; and White 2010. See White's diagram, "The Differing Layers of Knowledge Needed to Move Towards a Water Resilient City" (116). For literary and ethnographic works that take port cities as central characters, see Brown 2005 on Liverpool; James 1994 on New York; Morris 2002 on Trieste; and Pamuk 2004 on Istanbul.

4. Relevant to the space between law and crime is Nordstrom's (2007) analysis of the intersections of the legal and illegal (the "il/legal") in world trade. See also Santos's (2007: 9n42) discussion of the relation between voluntary compliance with "soft law" and lawlessness.

5. I use real names for public figures like Antonio and for professionals in public agencies who did not share controversial information. I use pseudonyms for everyone else to protect their privacy.

6. For scholarship on the cultural continuities between these dictatorships and democracies, see Jelin 2003; Scheper-Hughes 1997; and Taylor 2003.

7. See also Mumford 1934.

8. The largest two countries in South America, Brazil ranks fifth and Argentina eighth in land area in the world (World Almanac 2011: 733).

9. In quantity, their renewable water resources rank among the top fifteen (United Nations 2003: 194); in quality, Argentina ranks thirteenth and Brazil twenty-third (Esty and Cornelius 2002; United Nations 2003: 154). See also the map of major rivers in *National Geographic* (McNulty and *National Geographic* staff 2010: 46–47).

10. I translate and paraphrase Bloch's text from the Spanish throughout.

11. Encyclopedia Britannica 2005.

12. Bloch calls the waterway the "Mississippi of Latin America" (65).

13. Encyclopedia Britannica 2005.

14. Bloch 1999 (49) shows a map with twenty-two major sites of existing and projected dam and canal projects in the Plate Basin.

15. Bloch 1999: 46–52; United Nations 2003: 130, 524. The Rio declaration lists the fifteenth precautionary principle: "In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation." See <http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm>. See also Carson 1962, which was the inspiration for the development of this approach to pesticide control, and Freestone and Hey 1996, for analyses of the precautionary principles and international law.

16. Ribeiro (1994) applied the concept of juridical ambiguity to Yacuyetá.

17. The name links the Triple Frontier to both the war on terror and the war on drugs, perhaps anticipating that the need to protect U.S.-based private claims to the Guaraní aquifer (e.g., see critique of Doug Tomkins's vast investments in Bustinza 2007: 19; Goñi 2007).

In his work critiquing big oil, Gedicks (2001: 199) prefigures the use of drug war rationales in future contests over water sources:

While *The Northern Miner* may complain that "there are simply too many" NGOs [nongovernmental organizations] and that "corporations are being overwhelmed with bureaucratic demands that are strangling their projects" ["NGOs and the Global Village" 2000], these same corporations have no hesitation in calling upon the military to suppress democratic opposition to movements, or lobbying for a phony "drug war" that will provide military protection for U.S. oil investments in the Andean Amazon region.

18. For violence against antiminining activists in Latin America, see Gedicks 2001 and Whalen 2011; for Amazonian deforestation, see Rust 2011; and for antidam activists, see McCully 2001: 74–75.

19. In 2007 nineteen urban conglomerations had at least ten million people and were thus classified as megacities (Wright 2009: 486). Fifteen of nineteen megacities are on rivers; eleven of the nineteen megacities are port cities. The three Atlantic coastal cities include São Paulo and Buenos Aires, which are on major rivers, and Rio de Janeiro, which despite its name, is on a bay, not a river. São Paulo is actually on a plateau above Santos, through which it ships globally.

20. Water stress index data are represented on a map of global watersheds (United Nations 2003: 53).

21. The United Nations estimates that half the world's population in 2008 lived in urban areas and expects the urbanization trend to continue. North

America was 81 percent urban, Latin America 78 percent, Europe 72 percent, Asia 41 percent, and Africa 39 percent (Wright 2009: 486).

22. For a critical political geography of scale that challenges simplistic metaphorical use of scales as nested and hierarchical, see, for example, Howitt 2003.

23. Between 2001 and 2005, I did short preliminary fieldtrips to Colón, Panama; Veracruz, Mexico; Hamburg, Germany; and Amsterdam and Rotterdam, the Netherlands.

24. My approach is informed by a number of interconnecting scholarly streams. I mention only a handful of books here, leaving for later many other texts, including those that pertain to more technical aspects of water management as well as more culturally specific readings on Brazil and Argentina. For their studies of everyday life, I return to Bourdieu 1985 and de Certeau 1988; for social production of urban space and globalization, Harvey 2006, LeFebvre 2007, and Sassen 2006; for cultural readings of crime, Ferrell 2001, Nordstrom 2007, and Young 1996; for ethnography that grapples with environmental struggles, Adam 1998, Escobar 2008, Fortun 1999, and Tsing 2005; for environmental justice more broadly, Adamson et al. 2002, Burns et al. 2008, and Carruthers 2008; for political ecology of urban water issues, Desfor and Keil 2004, Kaika 2005, Swyngedouw 2004; and for ethnography on the meaning of water systems, Strang 2004, 2009. For emerging work on the anthropology of water, see the essay collections on water issues in *Cultural Anthropology* (2007, 22, no. 4) and *Anthropology News* (January and February 2010).

25. Following Raymond Williams's (1977: 128–135) concept of culture as a formative process involving tension between received interpretations and practical experience, my work explores the “structures of feeling” that emerge in communities organized in relation to waterscapes. I apply this concept to cultural conjunctures in port cities. I build on mid-twentieth-century cultural ecology (e.g., Frake 1962), while not sharing assumptions about cultural boundaries and empirical knowledge production. See Stuart Kirsch's (2008: 288–289) discussion of the transition from assuming that science and society operate in separate domains (“Mode I knowledge production”) to assuming that the domains of science and society interpenetrate (“Mode II”). Kirsch finds that the transition from Mode I to Mode II is associated with “globalization and the rise of environmentalism as a social movement” and, within anthropology, with a transition from cultural ecology to political ecology. In his terms, this ethnography is an example of Mode II political ecology.

26. Escobar (2008) builds on Joan Martínez Alier's (2002) definition of “*political ecology* as the study of ecological distribution conflicts.” In a nutshell, he argues that

people mobilize against the destructive aspects of globalization from the perspective of what they have been and what they are at present: historical subjects of particular cultures, economies, and ecologies; particular knowledge producers; individuals and collectivities engaged in the play of living in landscapes and with each other in distinctive ways.

27. I worked in Santos from September to November 2006, Salvador from November 2006 to March 2007, and Buenos Aires from March to August 2007. These periods included short regional side trips.

28. Fieldwork has a rhythm (Nencel 2001: 73–93). As I move from place to place, discourse to discourse, within and between cities, I begin with fact-finding, network building, and language practice (Portuguese in Brazil and Spanish in

Argentina). After slow initial orientation phases, I gather momentum, crossing divides of profession and interest while participating, observing, and interviewing. Some exchanges allow me to intercept the human-water relationship in situ (e.g., on the beach), while others are removed (e.g., government offices or public squares). As I become more skillful at appreciating concordances and contradictions between different interpretive frameworks and the nuances in the communication styles and strategies of individual social actors, I also become better at winnowing out and challenging versions of unreflective, biased, or simply uninformed talk. After mobilizing and connecting enough perspectives on key issues, fieldwork seems most worthwhile when, through conversation, I can nudge the envelope of prevailing opinion and representation. In this sense, data collection is simultaneously an opportunity to engage in advocacy for local aquatic environments and those who fight for them. As Kim Fortun discovered in her work with Bhopal disaster victims, advocacy “requires continual interpretation. One must watch the world, listening for what escapes explanation by science, law, and other established discourses. Accounting for what established systems count as noise” (2001: 351). In practice, in addition to the candor of interviewees, what ends up counting as responsible truth often depends on how far the dialogue can go in the allotted time. In turn, all these factors depend on trust, which may have surprising origins and always unfolds according to unique temporal dynamics.

29. The experimental character of this ethnography begins with a design for field logistics that can serve as an open framework for creating knowledge. It also inheres in the use of scholarly materials on water and water landscapes from the sciences, social sciences, and humanities.

30. A version of this chapter is published in Desfor et al. 2011: 211–234.

PART I

1. Interview with the general coordinator of the Revitalization Office of the General Office of Municipal Transport and Infrastructure (SETIN), January 19, 2007.

2. Interview with Grace Kelson, Pedra do Sal, Itapuá, February 7, 2007.

3. Military police focus on street crime prevention and have certain responsibilities to and benefits from military affiliation. Civil police come in after crimes have been committed to process investigations. The division is problematic. An analyst in the Department of Police Technique, Center for Documentation and Police Statistics (CEDEP, Centro de Documentação e Estatística Policial), told me that the civil and military police are hoping to move toward working in a more integrated fashion, through partnerships and joint operations. Interview with analyst, February 26, 2007. On the role of Brazilian police, see, for example, Pinheiro 1991; Caldeira 2000; Goldstein 2003: 49–57, 174–225.

4. See Selka 2007 for nuanced analysis of negotiated relationship of Yemanjá’s meaning in Candomblé and Afro-Brazilian racial politics.

5. Interview on Lighthouse Beach, February 6, 2007.

6. For the personal dimension, see Kane 2010b.

7. Interviews and tour with the regional water director of Basic Sanitation for the State of São Paulo (SABESP, Saneamento Básico do Estado de São Paulo), Santos region, October 11 and 26, 2006.

8. During the two weeks of the Christmas–New Year holidays, I traveled to Olinda and Recife, adjacent historic ports north of Salvador in the state of Pernambuco (Kane 2010a).

9. Interview, dock offices, Docks Company of the State of Bahia (CODEBA, Companhia das Docas do Estado da Bahia), November 13, 2006.
10. Conversation, guard house of CODEBA, November 30, 2006.
11. Interview, dock offices, CODEBA, December 19, 2006.

CHAPTER 2

1. In Afro-Brazilian traditions such as Candomblé, ritual sacrifice involves animals, fruits, flowers, and mirrors to goddesses of freshwater Oxum and Nanã and sometimes even to Yemanjá, goddess of the sea.

2. Sofitel hotel's glossy brochure projects Lagoa de Abaeté's image out into the world as a cultural attraction even as its imposing edifice builds itself into dune microhabitats within a kilometer of the lake. The epitome of a healthy environment, Abaeté's image also appears in a PR film produced by Cetrel, Bahia's top-of-the-line waste management firm in nearby industrial park Camaçari. These beckoning uses do not go uncontested. In a public TV documentary sketching Salvador's history, Abaeté exemplifies the "assassination of the city," a natural treasure hemmed in by unscrupulous real estate interests (televised by TVE Bahia, Channel 2, on March 2, 2007, at 2200 hours).

3. Interview, bar-restaurant owner, Lighthouse Beach, January 29, 2007.

4. Projeto Sócio-Ambiental e Turístico Menino de Abaeté, Grupo Ecológico, Esportivo e Cultural.

5. Interviews with Antonio, Lagoa de Abaeté, November 4, 2006, and January 8, 2007.

6. See Kane (forthcoming) for an analysis of the jurisdictional battle between federal and municipal governments over beach-shack location and environmental law.

7. "Project Life Preserver" (*Projeto Preservar Vidas*), developed by Antonio's Native Ecology Group, is an agreement with the state General Planning Office (SEPLAN, Secretaria do Planejamento) and firefighters.

8. Sunlight oxidizes the iron in the water, which whitens clothes washed in the surface waters. If the clothes go down deep, they turn brown. Interview with SRH scientist, January 31, 2007.

9. When I asked the laundress Dona Pitú about gay men, she said, using the English term, that the men they call gays would often do laundry there too. Interview with Dona Pitú at her home, January 27, 2007.

10. Interview at EMBASA, November 16, 2006. His pessimistic tone is encapsulated in the following statement: "The city is over five hundred years old. For most of that time there was no environmental consciousness. The water table is already compromised. The sewage has soaked into the ground and poisoned the aquifers with heavy metals. The burden of history is the rationale for relative inaction in the present."

11. Interview at Sofitel Salvador, December 11, 2006. A large poster of Accor's twenty-one norms (a list of goals and best practices) hangs by the hotel's front desk. For its current version of water related policy, see <http://www.accor.com/en/sustainable-development/eco-priorities/water.html>.

12. Accor no longer owns the hotel, but this description now appears on other sites that profile the hotel. See <http://www.incomingbrazil.com/en/hoteldetail.aspx?IDHOT=98>.

13. The NGO, I would discover later, was Nativo de Itapuã, spearheaded by Antonio.

14. Interview with Antonio, Lagoa de Abaeté, January 8, 2007.

15. Two Brazilian reals equal one U.S. dollar.

16. According to Antonio, other projects included a cement sculpture in the park (doing more damage; R\$5,000); removal of fifty almond trees to preserve the native rat, they say (nonsensical; why not just intersperse fruit trees? R\$5,000); educational signs encouraging people to call for help when whales wash up on the beach rather than killing and eating them (initiated by Federal University of Bahia [UFBA, Universidade Federal da Bahia] biologist Everaldo Queiroz, R\$18,000); and cleanup of a lagoon in the Stella Maris neighborhood (R\$20,000). This list leaves R\$52,000 for which Antonio has been unable to account.

17. Phone conversation, January 15, 2007, and subsequent interview, January 22, 2007, in English.

18. The Pleistocene includes the Great Ice Age, from 1.8 million to about 12,000 years ago.

19. In our January 22, 2007, interview at UFBA, Landim did not show me the government study but, rather, a slide presentation done as a GIS (geographic information system) class project by Marcela Ramirez Dominguez, called "A Lagoa de Abaeté Está Secando?" (Is Abaeté Lake Drying?).

20. The Precambrian lasted from approximately 4 billion to 542 million years ago.

21. Information System of Subterranean Water (SIAGAS, Sistema de Informações de Água Subterrâneas) is the agency responsible for monitoring and managing underground water resources, but in 2007 it listed only about a dozen wells for the entire region, a drastic underestimate.

22. He also mentioned a 2002 EMBASA pamphlet on the history of water in Salvador that I never could find.

23. All translations of printed works are my own, unless otherwise noted.

24. Interviews providing information about wells in Itapuã are the following: Antonio at Lagoa Abaeté, January 8, 2007, and February 5, 2007; patron at the Frenchman's bar-restaurant, January 14, 2007; Pedra do Sal gated-community residents, January 15 and 24, 2007; condominium residents, February 7, 2007; CRA scientists, January 23, 2007; and SRH scientists, January 31, 2007, February 26 and 27, 2007. I did not get a chance to interview engineers at other hotels.

25. Interview with Antonio at Lagoa Abaeté, January 8, 2007.

26. The question (and apt metaphor) was to ascertain the category of my professional pursuits.

27. Interview, government agency scientist (details confidential).

28. This scientist said that he had asked Antonio to participate in the lake-level study but that Antonio wasn't interested. He said that it bothers him that Antonio continues to speak about the lake getting smaller. When I asked Antonio about his position on the matter, he got angry and said that he had gone around the lake by car with the government agency scientists (including the man I interviewed) and showed them each illegal site, well by well. Then they never got back in contact with him. Whenever there is money available for something, he said, only the chiefs get to partake. (This is a running theme.) Interview with Antonio, February 5, 2007.

29. See Jamie Linton's (2010) book on the historical erasure of the social relations, multiple meanings, and manifestations of the world's waters as they were transformed into modern water through the development of hydrological sciences. The tension between sense and science in the Abaeté case is a telling example of "the fact that the very act of measuring water [e.g., rainfall] abstracts it from its qualitative dimensions" (98–99).

30. There are shades of agreement and disagreement on these issues. A scientist in Cetrel, the environmental protection company in Camaçari, declares himself an optimist. After all, he makes a living improving and preventing industrial pollution problems in Bahia. The question of Abaeté is outside his work domain, but he is willing to speak as a resident of Salvador. In direct contrast to the SRH scientist, he sees the central problem as that the rate of extraction of residential wells is greater than the recharge rate of the aquifer. Although Bahia's General Office of Environment (SEMA) has prohibited the construction of more wells, clandestine well digging in the region of Abaeté continues full tilt because people do not want to pay EMBASA (the one point everyone agrees on). The well system should be integrated and monitored along with the city system, but people do not get authorization for wells. Interview at Cetrel, Camaçari Industrial Pole, December 8, 2006.

31. Interview with CRA scientists in Monte Serrat, January 23, 2007.

32. Interview, government agency scientist (details confidential).

33. The last stanza of Caetano Veloso's song "It's a Long Way," which I translate here, combines three lines from "Consolação" (Consolation), a poem by Vinicius de Moraes, and two lines from the song "A Lenda do Abaeté" (The Legend of Abaeté) by Dorival Caymmi (from Caetano Veloso's album *Transa*, 1972, Polygram). The song also includes imagery associated with the sea and Yemanjá.

CHAPTER 3

1. Basso's (1996: 151–152) ethnography about the history encoded in the place names, or toponyms, of western Apache in midcentury United States reveals the dynamic and sacred relation between language and place. When he returns near the end of the twentieth century, he finds that those who "speak with names" are not necessarily hindered by new communication and transport technologies that have dramatically changed their material lives.

2. *Hyperreality* refers to the difficulty of separating fact from fantasy in a contemporary world saturated with mass media. So, for example, if you observe a map, you might well assume it is based on an original. But that map might well be something "real without origin or reality."

3. Following Jameson (1994: 347), I imagine the mass media as a collective actor that participates in and influences the unfolding of events.

4. Although, where intrusion is severe, memories can die. Fabio Dib, a lawyer in the nongovernmental organization Caá-Oby, was considering taking on the case of a coastal quilombo south of Santos that was being threatened by a multinational hotel complex. For historical continuities between quilombos that become urbanized as favelas, see Campos 2005.

5. Walking and filming tour of Lagoa de Abaeté and surrounding dunes, January 8, 2007. Participants included Louise Calegari, reporter; Russo, cameraman; a cameraman's assistant; and four military police.

6. Some time later, I ask Antonio to identify the plants and animals in the photos I shot on this walk: a bush, *colhão de bode*, that stabilizes the dune; a cactus (*cactus quarto de quinas*); a smaller soft-leafed plant, "leaf of the vulture" (*folia do urubu*); and a bromeliad (*bromeliá gravatá*). The fire-prone grass that stabilizes the dune is *capim do colchão* (*colchão* means "mattress"; people make mattresses from this grass). *Curuja buraquera* is an owl native to the woodland-savannah habitat (*cerrado*) that has adapted to Abaeté's dunes, where it builds a nest in sand. Interview with Antonio at Lagoa de Abaeté, January 26, 2007.

7. See Collins 2008 (282) on Pelhourino's position in "imperial formations" and "politics of dislocation."

8. Interview with patron at the Frenchman's bar-restaurant, January 14, 2007.

9. It is as if they could be reenacting some classic robbery motif related to those in Stith Thompson's (1955–1958) prodigious *Motif-Index of Folk-Literature*.

10. Officials attempt to control blurring of the line between police and bandits. For example, during the liminal and often violent ritual space of Carnaval, while it is traditional to wear costumes that reverse social hierarchies, it is a crime to dress up as a policeman (Lewis 1999).

11. See http://www.policiacivil.ba.gov.br/noticias.asp?cod_Noticia=2481 (in Portuguese).

12. See Penglase 2009 for discussion and review of scholarly literature.

13. Conversations at Lagoa de Abaeté, February 13, 2007.

14. While street crime could be said to be an *effect* of the structural violence that contributes to poor health among the poor, environmental crime could be said to be a basic causal component. See Farmer 2003 on structural violence and public health. Brazilians living in poverty undeniably suffer a greater degree of violence perpetrated by individuals and gangs, police, and banditos and of the structural violence perpetrated by the system (Goldstein 2003; Penglase 2009; Pinheiro 2000; Scheper-Huges 1992). Nevertheless, violent crime and its witness—whether on city streets, beaches, or dunes—feeds a cultural and emotional current that links favelas to working-class and upscale beach neighborhoods, poor to rich, and locals to outsiders (Caldeira 2000).

15. Interview with Antonio at Lagoa de Abaeté, January 26, 2007.

16. Like the political stencil graffiti of Rosario, Argentina, the ribbons are distributed about the streets forming a circuit of meaning (Kane 2009: 23).

17. The murderous scene took place on one of the two main Carnaval circuits, Barra-Ondina. The moment of shooting and immediate aftermath was caught by a cameraman for TV-Aratu, but the video is now difficult to locate.

18. Jorge Amado's 1971 novel *Tent of Miracles* brings the repression and resistance of Candomblé in Salvador to life.

19. See Selka's analysis of religion and racial identity in Bahia. He finds that some Evangelical churches in Brazil revile Candomblé as the religion of the devil and hold exorcisms for those who have been possessed by orixás (2007: 45). He focuses too on the politics of the Lavagem of Bonfim (92–96).

20. Interviews with Malê Debalê's president, teacher, manager, and office worker in Malê Debalê headquarters, February 9, 2007.

21. The 1835 uprising took place on January 24 and 25 under cover of the festival of our Lady of the Guide in the Church of Good End. It was followed by a period of peace, *pax baiana* (Reis 1995–1996: 26, 31).

22. Interview with Antonio at Lighthouse Beach, February 23, 2007. Another important rock is Ita-puã, "the rock that snored," an indigenous appellation referring to the sound the surf made when it hit this formation rising out of the sea. Locals say the noise would scare children in their beds at night—at least, it did until someone killed the acoustics by dynamiting the cavity in the formation.

23. I follow Baudrillard's (1983) definition, that the simulacrum operates in the mass-mediated hyperreal where we cannot assume that an authentic reality precedes it.

24. Richard Dorson (1976) defines *fakelore* as "a synthetic product claiming to be authentic oral tradition but actually tailored for mass edification," which "misled and gulled the public." For a discussion of *folklorism*, a term that grapples

with rather than dismisses public, mass-mediated, and transnational folklore, see Šmidchens 1999. See also Hobsbawm and Ranger 1983 on the invention of tradition.

25. Thanks to Pauline Greenhill for her insights on this topic. For further discussion, see Falassi 1987; Greenhill 2001; and Hughes-Freeland and Crain 1998.

26. Interview with Dona Pitú and her daughter in their home, January 27, 2007. Note that *dona* is a term of respect for women and translates to “lady,” “Mrs.,” “Ms.,” or “owner.”

27. And indeed, it is Dona Pitú’s cousin that the journalist Jacob (2007) interviewed for the special supplement on Abaeté.

28. Other community water sources for drinking or washing in Itapuã that Dona Pitú used before her domestic tap was installed include Ingazera; Ponte das Pedra; Riacho; Milindre; 5 Rodrigue; a cistern and a house by the medical post of Alicia Mora; Penedu; and the delicious water of Fonte da Telia. (Note that I cannot confirm these sites or the spelling of the names.)

29. Interview with bar-restaurant owner and her husband on Lighthouse Beach, January 29, 2007.

CHAPTER 4

An earlier version of the section “Project Blue Bay” was presented in a panel on water and development at the 2008 meetings of the American Association of Geographers, organized by Farhana Sultana and Jessica Budds, April 15–19, Boston.

1. As I wrote this chapter, an oil-filled transformer exploded in the Sayano-Shushenskaya hydroelectric power station on the Yenisei River. See “Deadly Russia Power Plant Blast” 2009.

2. Boelens and Zwarteveen (2005: 106–109) analyze water infrastructure in terms of sociolegal, organizational, and technical dimensions, finding (and reviewing literature on) “three basic ingredients of neoliberal water reform recipes: decentralized decision-making, private property rights, and markets.”

3. See Rademacher 2008 for analysis of a Nepalese case and a review of the anthropological literature on how state “power is sustained and articulated through the production of environmental forms” (105).

4. See Bennett, Dávila-Poblete, and Nieves Rico 2005; and Coles and Wallace 2005. In its special issue on water, *National Geographic* (2010: 52) captures the already dire situation:

Americans use about 100 gallons of water at home each day. Millions of the world’s poorest subsist on fewer than five gallons. 46 percent of people on earth do not have water piped into their homes. Women in developing countries walk an average of 3.7 miles to get water. In 15 years, 1.8 billion people will live in regions of severe water scarcity.

5. People tend to think about the global in terms of flows and the compression of space and time (Harvey 1990), for example, information flows taking seconds between continents, enabling people on different continents to communicate as if they were in the same place. But Sassen (2006: 382–383) argues that the global has to be embedded in national and local spaces in quite specific material ways (e.g., information flows are enabled by fiber-optic cables and the workers who lay them across the seabed as well as the office workers who administer the service in different locales). She studies the interactions between the different orders of reality needed to implement, reproduce, service, and finance the global in the local. For

scholars, the processes and networks needed to produce the local reside in what she calls the “analytic borderlands.”

6. Engineers in three ports (Salvador, Brazil, and Buenos Aires and Rosario, Argentina) told me, off the record, that archaic sewage lines dump directly into the harbor where the ships berth. In some cases, the smell is intensified by the configuration of docks, which prevents currents from taking the sewage out to sea.

7. For relevant legal code, see Superintendência 2004.

8. This was an answer to an audience member’s question following a public debate at the Faculdade de Técnica e Ciência about sanitation and the laws pertaining to beach shacks, November 29, 2006.

9. Interview with public educator at EMBASA, November 16, 2006.

10. There are precedents to infrastructure projects proceeding on the basis of international loans. Melo (1995: 343) reports that in the area of urban development, Brazil became the World Bank’s largest borrower in the 1970s and early 1980s.

11. If this state of affairs seems shocking, imagine all the urban sewer pipes sprouting from all the world’s coastal cities. It is not just pollution at issue. For example, on February 13, 2007, SBT-TV news presents an IBAMA report of alligators living at a river outflow contaminated with sewage. Interviews at EMBASA, November 16, 2006; of CRA scientists, January 23, 2007; and at the Geosciences Institute at UFBA, January 22, 2007, contributed to the information here. Note that industrial effluent from the newly built industrial zone of Camaçari is collected and treated by a private entity called Cetrel and disgorged through a pipe into the Atlantic in an area with a clay bottom. Clay sediment is more likely to absorb toxins than sand. Unfortunately, the new industrial zone is built on top of the São Francisco aquifer. The petrochemical port of Aratu, under the auspices of the port authority Docks Company of the State of Bahia (CODEBA, Companhia das Docas do Estado da Bahia) was the primary focus of the Bahia Azul project.

12. The culture of not paying involves reliance on nonstandard wells and hookups that clandestinely dump sewage into rainwater drains, both of which contaminate water tables and aquifers. For more detail, see Kane 2008.

13. Interview with the chief operating officer of Bahia Azul project, December 13, 2006. Sewage flowing into storm drains during heavy rains is a common problem throughout the world, including in Indianapolis, the nearest big city to my home.

14. For freshwater law and management in Brazil, see Benjamín, Marques, and Tinker 2005; Bennett, Dávila-Poblete, and Rico 2005; Biswas et al. 2004; Brannstrom, Clarke, and Newport 2004; and de Almeida Rosso and Cirilo 2002.

15. Antonio was in the midst of such a project: restoring the fountain of Fazenda Grande, a neighborhood that was once a farm-plantation. Also see Limbert’s (2001: 48) cultural analysis of the “entanglements” of water infrastructure and distribution in Oman.

16. The beach was made much cleaner by the sewage collection pipes laid by Bahia Azul, although the pocketbook maker who sells her colorful fabric wares in a stand between the road and the beach’s retaining wall said some still come at night to defecate in the sands below, creating a stench that she and her sister vendors must endure.

17. *Macumba* is an ambiguous term that refers to Afro-Brazilian religious rites without specifying which tradition.

18. My first foray into thinking about the purity and danger of development hierarchies in riverine environments was while studying village formation in the

Darién among the Emberá and Wounaan. See Kane 2004. Late twentieth-century development policies encouraged dispersed extended families to resettle in what would become ecologically compromised villages. When a dispersed household collects water upstream and defecates downstream, it does not seriously threaten neighbors, but when villages with ten to one hundred households do so, dysentery rates rise.

19. Interview, Rio Vermelho, February 28, 2007.

20. My informant on this day, December 6, 2006, is the young port authority guard I had first met on November 30.

21. The seventeenth-century Church of Our Lady of the Rosary of Black People of Olinda also has underground galleries (see Kane 2010a).

22. Conversation with the man from the shoe shop, January 19, 2007. Fundação Gregório de Mattos, a cultural foundation in Salvador, contains historical and architectural data on twenty-seven water taps and fountains, including the two discussed here. See http://www.culturafgm.salvador.ba.gov.br/index.php?option=com_content&task=view&id=52&Itemid=44.

23. His office is part of the General Office of Municipal Transport and Infrastructure (SETIN, Secretaria Municipal dos Transportes e Infraestrutura).

24. Interview of the general coordinator in the Comércio, January 19, 2007.

25. For discussion of “assemblage,” see Deleuze and Guattari 1987 (504–505) and Ong and Collier 2005 (4, 9–14).

26. For a postcard history of the elevator and funicular, see <http://www.tramz.com.br/sv/f/f.html>.

27. Interview with CRA scientists in Monte Serrat, January 23, 2007.

28. See <http://www.culturafgm.salvador.ba.gov.br/>.

29. I do not have data on the conditions of those who have no access to water and sewage services.

30. Making money by appropriating the local water resources is a fundamental kind of “accumulation by dispossession” (Harvey 2006: 111)—from the real estate and hotel interests that advertise their proximity to Lagoa de Abaeté (see Chapter 2) to the entity that governs the hydroelectric dam in Yacyretá (see Chapter 8).

CODA

1. In addition to protecting the lake, Antonio, in his role as president of Nativo de Itapuã, helped establish a mangrove preserve (Caetano 2003). Projects to establish a breeding station for the blue crab and a nursery for cultivating Abaeté’s native plants were among efforts in progress in 2007.

2. Interviews with Antonio, Lagoa de Abaeté, February 5 and 24, 2007.

3. This account is a composite from newspaper and TV reports: “Carro é Encontrado com Corpo Carbonizado” 2007; “Ambientalista” 2007; Brandão 2007; and Wendel 2007.

4. Note that Brayton posts a Rede TV News image captioned, “His corpse was dragged to the car and thrown by the soldiers into the trunk.” The image of a body being moved and guarded by uniformed men appears to have been taken by someone hidden behind trees. Although the image is partial and fuzzy, the body resembles Antonio.

5. Data from the Center for the Defense of Children and Adolescents of Bahia (CEDECA-BA, Centro Defesa da Criança e do Adolescente da Bahia) indicate that between September and December 2007 there were 570 assassinations in Salvador.

The profile of targets includes Afro-descendant youth between 13 and 17 years old (*Correio da Bahia*, February 11, 2008). Much of this violence is related to gangs and the drug war; some is undoubtedly related to “wild power” of self-designated terror squads that mimic and propagate tactics developed by the military during mid-twentieth-century dictatorial rule (Linger 2003).

6. “Caminhada ITAPUA—NATIVO 15/07/07 2/4.” 2007. YouTube video, posted by “trincheiralanhouse,” July 16. Available at <http://www.youtube.com/watch?v=ThS9HzMVsbY> (in Portuguese).

7. Immediately after receiving the news of Antonio’s death, in Buenos Aires via e-mail, I offered my last videotaped interview with Antonio, speaking of his life’s work and the death threats, to two TV stations, including TV-Aratu, whose team Antonio guided through the dunes to Lookout Hill. I received no response.

8. See Tavares 2010. For a video clip of the public announcement of the arrest, see <http://www.youtube.com/watch?v=ALoJ3d-Fkjc> (in Portuguese).

9. Tavares 2010.

10. For a list of environmentalists assassinated in Brazil, see <http://osverdestapes.blogspot.com/2011/05/morte-de-ambientalistas-no-brasil-sao.html> (in Portuguese).

PART II

1. The Autonomous City of Buenos Aires is the federal capital. Along with forty surrounding cities, it makes up the Metropolitan Region of Buenos Aires, which is the largest urbanized expanse in the nation, with 52 percent of the national population, or 13,827,203 inhabitants, according to the 2001 INDEC (Instituto Nacional de Estadística y Censos) census. Gran (Greater) Buenos Aires is part of the province of Buenos Aires and comprises the autonomous city and the surrounding municipalities.

2. For in-depth, general comparison of Argentina and Brazil, see Álvarez 2003.

3. Class-linked racial oppression is alive in both cities, but whiteness is read differently. In my fieldwork experience, people from Buenos Aires, or *porteños*, “persons of the port,” tend to identify themselves and their compatriots as white, despite physical evidence of indigenous descent, whereas blacks are simply rare. See Joseph 2000.

4. For work on environmental injustice and crime in villas of Buenos Aires, see Auyero 1999; Auyero and Swistun 2009; and Epele 2010.

5. On hydraulic theories of state power, see Wittfogel 1957; Worster 1983; and Ribeiro 1994: 14–16.

CHAPTER 5

1. Official histories name original inhabitants as they refer to their extermination. In the region that would become the province of Buenos Aires in the pampas lived Querandíes and Het, and in the delta lived Guaraníes (Defensor 2007: 11). For a critique of indigenous categories in the politics of global colonialism in Argentina, see Haber 2007.

2. In 1821 an enormous red stain appeared at the mouth of the Riachuelo in La Plata. The Captain of the Port denounced as responsible the slaughterhouses and the meat salters and tanners in the Barracas neighborhood and on the navigable margins of the Riachuelo. This was the city’s first public alert of water contamination (Fundación Metropolitana 2005).

3. For more detailed water and sanitation history and images, see CONICET 1999; Rey 2004; and Fundación Metropolitana 2005.

4. Teatro Colón, designed by Pellegrini, would occupy the site next. Today it is the east side of Congressional Plaza (Plaza dos Congresos).

5. A shorter, anonymous version of the essay, "Palace of Running Waters," was published by the water company (AySA, Agua y Saneamientos Argentinos) in an undated brochure.

6. See Tartarini, n.d., note 155.

7. Other examples of the link between violence, dictatorship, and the inadequacy of monumental infrastructure include the Guatemalan "dam built with blood: the Choixoy massacres" of 1976 (McCully 2001: 74–75, 136) and the late-1950s "dam-building binge" of General Franco in Spain (104).

8. In this same year, the transvestites of Buenos Aires did not want to move from the Rosedale neighborhood for fear they would literally be pushed into the river.

9. For details, see Fundación Metropolitana 2005 (25) and Federovisky 2007 (165–182).

10. In the same year, the Suez transnational was also kicked out of Atlanta, Georgia, for bad service.

11. Participant observation in World Water Day march, March 22, 2007.

12. Fundación Metropolitana 2005: 21. Urban migration and settlement in which people with little or no income settle in a circular pattern around the city and build wells and septic tanks is common. Dr. Pedro Hipólito Rodríguez, anthropologist at Center of Research and Higher Education in Social Anthropology (CIESAS, Centro de Investigaciones y Estudios Superiores en Antropología Social) in Xalapa, Mexico, brought this pattern to my attention in 2004 with the port of Veracruz as example. Because of overuse, the Jamapa River no longer reaches the ocean, with the added consequence that saltwater intrudes into underground freshwater sources.

13. Interview with Maria Inez Nagy, hydrogeographer, at AySA, July 31, 2007. See also Santa Cruz et al. 1997 and Chapter 4 for discussion of wells in Salvador.

14. In contrast, the eastern shores of the Uruguay and Plate Rivers are rock, not sand. It is more difficult to get water out of rock because you must perforate it and seek out fissures containing water.

15. Fundación Metropolitana 2005 (17), citing ENOSHA data, finds that 1,636 companies or organizations provide service to 3,250 localities throughout Argentina.

16. For review of coastal issues, including bivalve invasions, see Barragán et al. 2003.

17. Private trucking services are probably also part of this patchwork, although I did not gather data on them.

18. The UN's *Water for People, Water for Life: The United Nations Development Report* (2003: 510) states that regional environmental trends for Latin America show increasing decline across all parameters.

19. Participant observation in World Water Day march, March 22, 2007.

20. See <http://joselodemisiones.com.ar> (in Spanish).

21. See an image of the sculpture, "Cloaca a Cielo Abierto," at <http://www.avelaboca.org.ar/infor028.php> (in Spanish).

22. My rough translation lacks the original's rhymes.

23. Stencil graffiti images of iconic Che Guevara in beret are among the most popular in Argentina. Some are irreverent—for example, Che with Mickey Mouse

ears (although the ears appear more frequently on stencils of former president George W. Bush).

24. For a favorable view of AA written for the World Bank, see Alcázar, Abdala, and Shirley 2000; for a view from poorly served neighborhoods, see Almansi et al. 2003.

25. The Ministry of the Interior issues licenses to march along routes that are proposed to the police.

26. Interview with an international maritime lawyer and shipping executive in his office in central Buenos Aires, March 29, 2007.

27. I visited a similar infrastructure museum at the Billings hydroelectric dam near Santos, Brazil.

28. Someone stenciled the bicycle question in various places in central Rosario. The question worked in tandem with at least one carefully rendered stencil of a life-size bicycle leaning against a wall.

29. Following my standard procedure, I did not systematically photograph all the variations of any one image, including the divers. See Kane 2009 for more general discussion of the aesthetic politics of Buenos Aires stencil graffiti.

30. Banksy's (2006: 49, 73, 120, 134) book of stencil graffiti include four examples of divers enacting human-water relationships. Another Banksy piece, the "little diver" graffiti, is in the center of a Melbourne street battle about outsider art, the art market, and heritage law (Houghton 2008); see Young 2005 for analysis.

31. In interviews with journalist Horacio Verbitsky (1996), ex-naval Captain Adolfo Scilingo gave details of how he and fellow officers in the Navy School of Mechanics (ESMA) drugged and stripped prisoners, flew them over Río de la Plata, and dumped them into the Atlantic Ocean.

CHAPTER 6

A version of this chapter appears in Gene Desfor, Jennefer Laidley, Quentin Stevens, and Dirk Schubert, eds., *Transforming Urban Waterfronts: Fixity and Flow* (New York: Routledge, 2011).

1. An icon is a kind of representation or sign that resembles the object to which it refers (Peirce 1931–1958). Bridges are polyvocal signs because they communicate more than one meaning or speak to people in different ways.

2. Formal, public events I participated in specifically related to La Boca include a waterfront tour with colleagues upon arrival in the city; a meeting bringing together representatives from an organization of neighborhood assemblies called the Greater Regional Forum (*Gran Foro Regional*) with the Environmental Commission of the Public College of Lawyers of the Federal Capital (see Chapter 7); the first citywide organizational meeting of all the neighborhood assemblies of the Interbasin Meeting Riachuelo-Reconquista-Río de la Plata (*Encuentro Espacio Intercuencias RRR*) in La Boca (see Chapter 7); the symposium "Water Is a Right" at the General Auditorium of the Nation; a Supreme Court hearing of the government's integrated but faulty sanitation plan in the Matanzas-Riachuelo River Basin; a two-day forum and workshop, "Poverty and Environment," for public health experts, city planners, and neighborhood representatives at the National Library; and a new forum's launch, "Antidiscrimination and the Environment," at the National Institute against Discrimination, Xenophobia, and Racism of the Ministry of Justice, Security, and Human Rights. As suggested by this list of events, there was a great deal of concern and activism over—and overwhelm-

ing scientific and legal evidence documenting—governmental failures to punish industrial polluters, grapple with public health problems, or sufficiently extend legally mandated sanitation and potable water to residents of the city conurbation (Federovisky 2007). Puerto Madero, inhabited by a protected and comfortable elite and corporate constituency, was not represented at any of these events. That does not alter the fact that the Plate River, polluted principally by the Reconquista River, flows under its signature bridge.

My focus on bridges as icons emerged after returning from the field. Videotapes and still photographs produced in my walking tours provided data for analysis of bridges, art in public space, and transit routes. I interpreted the visual data in the context of my understanding of ecology, infrastructure, and cultural politics. Historical materials circulated on the Internet by the port authorities and neighborhood associations provided details about the bridges and waterfronts that contributed substantially to the evocation of place and to my argument.

3. See <http://www.porlareserva.org.ar> (in Spanish).
4. See <http://www.puertomadero.com> (in Spanish and English).
5. See <http://www.puertobuenosaires.gov.ar> (in Spanish and English).
6. See <http://www.maritimeheritage.org/ports/southAmericaArgentina.html>.
7. See <http://www.puertomadero.com> (in Spanish and English).
8. See <http://www.evolo.us/architecture/sustainable-skyscraper-in-buenos-aires/>.
9. The Barcelona design was inspired in turn by Baltimore (Breen and Rigby 1996).
10. See <http://www.puertomadero.com> (in Spanish and English).
11. Hannah Skartveit, personal communication, May 21, 2009, Bergen, Norway. See also Mardones 2008.
12. See <http://www.porlareserva.org.ar> (in Spanish).
13. Ana Raffo, personal communication, September 18, 2008, Buenos Aires.
14. See Asociación de Vecinos La Boca (Neighborhood Association of La Boca), <http://www.avelaboca.org.ar> (in Spanish and English).
15. For example, see PROA Fundación's "Luces en el Puente" ("Lights in the Bridge") at <http://www.proa.org/varios/puente/luces.html> (in Spanish).

CHAPTER 7

1. For cultural and geopolitical analysis of how engineering criteria deny the human context with tragic consequences, see Gyawali 2001.

2. Participant observation of event April 9, 2007, at the offices of the Defensor del Pueblo de la Nación (the Defender), 365 Suipacha, Buenos Aires. As with Brazil's MPF, the people bring cases of government failure to the Defender for resolution. I was invited to the event by Pedro, a young man from the Tigre neighborhood assembly whom I introduce later in the chapter, who had received my contact information from Susana, the activist I met on World Water Day (see Chapter 5).

3. The report's authors are Defensor del Pueblo de la Nación, Fundación Ambiente y Recursos Naturales, Fundación Protigre y Cuenca del Plata, Cáritas Diocesana de San Isidro, Asamblea del Delta y Río de la Plata, Fundación Metropolitana, Museo Argentino de Ciencias Naturales, Universidad Nacional de General Sarmiento, Universidad Nacional de Luján, Universidad Nacional de la Plata, Universidad de Morón. A copy of the report is available at http://www.metropolitana.org.ar/archivo/la_metropolis/informe_reconquista.pdf (in Spanish).

4. Nationwide marches protested the killing of Fuentelba, a teacher killed by a canister of tear gas thrown into his car by a policeman while he was demonstrating against low wages in Neuquén, Patagonia.

5. The 1994 National Constitution (Articles 33 and 41) prohibits wetland destruction and asserts the right of all inhabitants to a healthy and balanced environment that is fit for human development.

6. Following current usage, I call these two rivers the Chico and the Tigre.

7. The Reconquista river basin contains 134 watercourses that run 606 kilometers; the largest is the Reconquista River (Defensor 2007: 24).

8. A high percentage of the population in the basin survives without basic necessities. In Tigre over 20 percent of the population lives in poverty (Defensor 2007: 33–34).

9. INDEC 2001; Defensor 2007: 38.

10. Defensor 2007: 41. Martín Nunziata, who participates in the Tigre quayside meeting, counts 1,200 polluting factories (interview with Martín, his family, and his neighbor Pedro's family in Río Carapachay, Tigre, May 20, 2007).

11. Defensor 2007: 43. The conclusions are followed by a list of legal proceedings calling for intervention in the Reconquista basin that were initiated between 2004 and 2006.

12. Federovsky (2007: 93–105) traces the local resistance to the lies and corrupt transactions that accompanied the disastrous, still-open Alleviating Canal. Inés O'Farrell, a limnologist, testified in court that she took measurements right before and right after that August 5, 2000, day when UNIREC blocked off the Reconquista's natural flow and diverted it through the Alleviating Canal. She had been regularly sampling the plankton in the Luján above and below its juncture with the canal. On August 5, the contamination discharging from the canal reached assassination levels, causing sudden, pronounced increases in nutrient and suspended-solid concentrations, diminution of dissolved oxygen to zero, and diminution of alga and other freshwater species diversity. Delta residents observed that the water, which had always been brown or grey at the edges, suddenly turned black as tar pitch.

13. The meeting was about the assembly's proposed accord for inexpensive water testing by INA, which would do the sampling, and Tigre's municipal government, which would cover costs. The assembly plans to use the tests to demonstrate that contamination pushes upstream only when it rains.

14. Participant observation April 27, 2007, at offices of CPACF on Avenida Corrientes. The Greater Regional Forum (*Gran Foro Regional*) was the precursor to the Interbasin Meeting RRR. I verified I had permission to attend with two CPACF members. For more on what I learned from Susana about the situation in Almirante Brown, see Kane 2012b.

15. The only real name I use here is Nunziata's, as he is a public figure whose name has already been published (e.g., in Federovsky 2007: 96). All three were present at the April 15 meeting in Tigre. Pedro organizes activities and presides alongside Nunziata. I first met him and Abril on April 9.

16. Gualaguaychú is a rhetorical touchstone. The people of Gualaguaychú and their allies are engaged in a long-term blockade of a strategic bridge between Argentina and Uruguay to protest the building of Botnia, a Finnish paper mill on the Uruguay River. The activists have succeeded in getting the Argentine government involved at all levels, access to venues of international arbitration in Madrid and New York, and avid, persistent mass media attention. Water activists fighting for problems within Greater Buenos Aires observe the Gualaguaychú success with a mixture of admiration and frustration because, while Botnia-related hazards of

eucalyptus monoculture and water contamination are real, it seems much easier for the Argentine government to support an environmental cause that deflects problems on to Uruguay, which, compared with Argentina, generally has much lower levels of industrial contamination, than to grapple with intractable, diffuse, and deep-rooted internal ecological problems at home.

17. There had been a previous meeting with representatives from Almirante Brown.

18. See the entry for *complicity* in *The Oxford English Dictionary*, 2nd ed.

19. Participant observation and interviews in town and in Río Carapachay, Tigre, May 20, 2007. Home water treatments use aluminum sulfate to separate mud, lime to adjust pH, and chlorine to kill bacteria and viruses.

20. Alberti was the coordinator of the Neighborhood Association of La Boca. The meeting was to be held June 16, 2007.

21. See Fundación Metropolitana (2004) for a report on managing the “residue cycle” in Greater Buenos Aires.

22. In my opinion, citizens in all countries should form and coordinate neighborhood assemblies that, among habitat-specific projects, shine light on military exclusionary zones. The problem is pervasive. For a case of chemical-weapons dumping in U.S. waters, see Associated Press 2010.

23. The Supreme Court decision in the case Saneamiento Reconquista (Reconquista Sanitation) A-1722/06, filed by the Asociación Argentina de Abogados Ambientalistas (Association of Environmental Lawyers), is available at http://www.aadeaa.org.ar/files/recomposicion_rio_reconquista.pdf.

24. This is my translation and interpretation of highlights from the Spanish-language legal decision.

CHAPTER 8

1. *Yacyretá* is a Guaraní name that means “Moon Land” (Ribeiro 1994: 88).

2. EBY (n.d.: 4). This caption appears beside large satellite images of river territory and a photo of the dam outlet.

3. Interview, May 23, 2007, Madres de Plaza de Mayo University, Congress Plaza, Buenos Aires. See also <http://ylanaveva.ourproject.org> (in Spanish).

4. Interestingly, the same logic was applied to potable water by geographer Claudia Natenzon in an interview the day before at the University of Buenos Aires. She said, “We drink industrial water here. There is a high cost to cleaning it, but it is worth it because of the large population.” Interview May 27, 2007.

5. Landlocked Paraguay was the first South American country to build a railroad.

6. Interview, May 25, 2007, Revolution Day, with the River People.

7. Pardo 2007. *Escrache* is an Argentine political performance genre in which artists (and the crowd) are the artwork; the artwork is inseparable from the immediacy of performance (Situationist International [1960] 2009; see also Taylor 2003: 180–182).

8. Participant observation and interviews.

9. Néstor Kirchner was president of Argentina at this time.

10. A prime example: a U.S. Supreme Court case (*Ledbetter v. Goodyear Tire & Rubber Co., Inc.*) set the precedent that a worker must claim discrimination within 180 days.

11. The scene evokes Enloe’s (1990) pathbreaking book on the systematic disempowerment of women working in support roles in militaries, governments, and corporations.

12. See <http://www.barrick.com/CorporateResponsibility>.
13. Interview in English with Bartolomé in his university office, June 26, 2007.
14. For example, Bartolomé (1993: 120) was censored for using “compulsory” to qualify the relocation process and had specific orders to avoid using “affected people.” When talking about the people to be displaced he was to call them “beneficiaries.”
15. I learn this from Mirta Antonelli, personal communication, June 21, 2007.
16. Participant observation of protests July 29, 2007. Patricia Campuzano, a journalist for *Del Diaria Primero*, told me that the El Brete community was to be moved to make way for a private nautical club. The phrase “riverine sentiment” (*sentimiento ribereño*) in the section heading was shared with me at the protest by Silvio Olando Alvarenga, president of the Athletic Sport Club and spokesperson of the El Brete community in Posadas.
17. Interview with Romina Zulpo at the Hotel Posadas, June 27, 2007.
18. According to the World Commission on Dams, dam-induced development projects increase impoverishment and suffering (McDonald-Wilmsen and Webber 2010).
19. Interviews with Bartolomé and Lito Almiron, June 26, 2007, Posadas.
20. Interview with Almirón, June 26, 2007, anthropologist and head of re-settlement, EBY, Posadas.
21. Interview with Bartolomé in his university office, June 26, 2007.
22. Participant observation, June 26, 2007.
23. The history is primarily based on Ribeiro’s (1994) historical research and my interviews with anthropologists in Posadas, Misiones Province. I also draw from Silva 2009 for political economic data. For a more comprehensive chronology of political violence and human rights movements in the southern cone, see Jelin 2003 (107–133).
24. Interview with Romina Zulpo at the Hotel Posadas, June 27, 2007.
25. For background, see Resende-Santos 2008.
26. Interview with Almirón, June 26, 2007.
27. *Jornal de Brasília*, April 4, 1990, in Ribeiro 1994: 49.
28. Interview with Almirón, June 26, 2007.
29. Ibid.
30. Ibid.
31. Ribeiro 1987. A new mode of juridical ambiguity has emerged in 2011: Evading laws protecting Argentine land (and thus water) from foreign investors, the provincial government in Patagonia has issued a twenty-year lease to Chinese company Heilongjiang Beidahuang State Faros Business Trade Group for large tracts of land on which genetically modified crops will be grown for export to China. The deal includes construction of an irrigation system and a port. See Lopez-Gamundi and Hanks 2011.
32. Interview with an international maritime lawyer and shipping executive in his office in central Buenos Aires, March 29, 2007. Also see Steinberg 2001.
33. Barrick Gold (2006) responds to a chain-letter e-mail regarding a mine on the Chilean-Argentine border, Pascua Lama: “The Pascua-Lama project is the first bi-national mining project in the world. The deposit is located on the border between Chile and Argentina. The Mining Integration Treaty between both countries and a specific protocol signed for Pascua-Lama provides the framework for its development.”
34. Interviews and tour with EBY social workers, June 27, 2007.

35. Interview and tour with PR officer and EBY engineer, June 27, 2007.
36. For discussion of water contamination and sedimentation problems caused by dams, see McCully 2001 (36–38, 108–110).
37. Interview with filmmaker Miguel Mato, Buenos Aires, July 24, 2007.
38. To track protest activities, follow legal action, and find information about mining, see <http://protestbarrick.net>; to track corporate response to environmental concern, see Barrick Gold 2012.
39. I quote the PR man who gave us the dam tour.
40. See a map of the La Plata basin and the twenty-two canals and projected infrastructure in play over a decade ago in Bloch 1999 (48–49).
41. Itaipú, between Brazil and Paraguay, is the world's largest hydroelectric dam and not far upstream.
42. See Frank and Lynch 1992 on how environmental harms ought to be recognized as acts of violence.

CHAPTER 9

1. Starting on April 20, 2010, BP's Deepwater Horizon well gushed under-water oil plumes into the Mississippi River watershed (e.g., Kaufman 2011). On July 25, 2010, massive spills of viscous crude oil from Canadian tar sands entered the Kalamazoo River upstream of Lake Michigan and Chicago (e.g., see <http://www.onearth.org/article/tar-sands-oil-plagues-a-michigan-community>). After the earthquake and tsunami of March 11, 2011, the Fukushima Daiichi nuclear power plant contaminated municipal water and food supplies and the ocean with radioactivity (e.g., Rosenthal and Broad 2011). For organized activism against the Belo Monte Dam in the Xingu tributary of the Amazon, see <http://amazonwatch.org/work/belo-monte-dam>; for activism against HidroAysén's two-river, five-dam hydroelectric project under construction in Patagonia, see <http://www.sinrepresas.com>. For lifting of the U.S. moratorium on deepwater drilling, see, for example, Baker and Broder 2010.
2. An example is Kim Fortun's (2001) advocacy work in Bhopal, in which she felt compelled by her collaborators to write in a huge range of venues and styles.
3. Interview with a port engineer at Terminales Río de la Plata's container terminals 1 and 2, Río de la Plata, Buenos Aires, April 26, 2007.
4. For a summary of infrastructural-ecological problems and recommendations, see Kane 2008.
5. Rubenstein (2010: 48–49) builds on Bourdieu's (2002: 3) formulation of the role of scholars and activists who engage in collective reinvention of already realized social and political structures.

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